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ABSTRACT

This survey of online search service centers in Canada was conducted to provide data on these centers and, more specifically, on the characteristics of the human search intermediary; and to provide an accurate overall picture of online searching in Canada. The survey questionnaires were mailed to approximately 765 Canadian customers of seven commercial online vendors and yielded a response rate of 49.7 percent. Questions on the survey were divided into two parts: data on the search service center itself, and data on search intermediaries. Findings were analyzed for each question using frequency distributions, and crosstabulations were performed on some groups of questions. The survey instrument and 60 tables and figures which illustrate findings are included in the report. (SW)

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A SURVEY OF ON-LINE SEARCH SERVICE CENTERS IN CANADA

MARCH 1980

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ABSTRACT

A survey of on-line bibliographic search service centers in Canada, funded by the Canada Institute for Scientific and Technical Information (CISTI), was conducted in conjunction with an on-going experimental study entitled: "Towards an optimal level of participation of the human search intermediary in user-system interface of on-line bibliographic search services".

Seventeen hundred (1700) bilingual questionnaires were mailed during a period running from mid-March to the end of April 1979 to all Canadian customers of most commercial on-line vendors: INFOMART (the Canadien agent of SDC), BRS, CAN/OLE, QL SYSTEMS, MEDLINE, NEW YORK TIMES, and INFORMATECH FRANCE QUEBEC. Only Lockeed refused to participate in the survey.

The questionnaire was divided in two sections: 1) data on the search service center itself (questions 1 to 15) and 2) data on search intermediaries (questions 16 to 25).

Three hundred and eighty (380) questionnaires were returned and analysed using the computer program SPSS (Statistical Package for the Social Sciences). This represents a response rate of about 49.7% since most respondents received more than one questionnaire (Canadian search service centers use an average of 3.1 systems).

This paper presents the results of the survey, and interprets some of its major findings:

- Most online Canadian search service centers are located in governmental (28.4%) and academic (24.5%) organizations.

- To a very large extent (79.5%), online search service centers are more specifically located in libraries or information centers.

- Canadian online search service centers have an average experience record of 2.5 years.

- Each Canadian online search service center conducts an average 430 online searches per year.

- ORBIT (24.5%), CAN/OLE (17.7%), DIALOG (17.4%) and QL SYSTEMS (14.0%) occupy most of the Canadian online search service market.

- The 5 most frequently used data bases in Canada are, by decreasing order of importance: COMPENDEX, CHEMCON (and backfiles), PSYCHOLOGICAL ABSTRACTS AND MEDLINE (and backfiles) (ex-aequo), INSPEC and MANAGEMENT.

- Most Canadian online search service centers (45.5%) operate on a free basis for their customers.

- The most popular mode for preparing online searches is the combined mode (the end-user and the search intermediary prepare the search together) while the most popular mode for conducting online searches is

- the delegated mode (the search intermediary conducts the search alone on behalf of the end-user).

- Canadian online search service centers have an average 2.4 search intermediaries available; the number of search intermediaries provided for on-line searching ranges from 0 in 39 organizations to a maximum 20 in 1 organization.

- 60.3% of search intermediaries are search specialists, i.e. people who devote most of their time to reference of information activities, including online searching.

- Areas of participation of search intermediaries are, by decreasing order of involvement and autonomy:

  1° search activities: 84.2%

  2° pre-search activities: 68.0%

  3° post-search activities: 45.6%

- Only about 55.4% of search intermediaries are involved in search-related tutorial activities.

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INTRODUCTION

The objectives of this survey of on-line search service centers in Canada were twofold: first, to provide data, until now non existing or at least not readily available, on on-line search service centers in Canada, and more specifically, on the identity, background, activities and various degrees of involvement of the human search intermediary in the user-system interface; and second, to provide an accurate, reliable overall picture of online searching in Canada, so as to serve as a proper background for my ongoing doctoral research which is: an experiment to devise an optimal level of participation by the human search intermediary in the user-system interface of bibliographic on-line systems.

The survey, which consisted essentially in a mail questionnaire, can be roughly divided in two parts: questions 1 to 15 relate to the search service center characteristics and questions 16 to 25 tackle some of the search intermediarys' characteristics.

This survey is much less ambitious than the survey Wanger conducted, back in 1974-75 on the impact of on-line retrieval services(1).

However it applies exclusively to the Canadian scene, which was only marginally covered in Wanger's survey (24 Canadian respondents on a total of 1273).

DEFINITIONS

Before getting into the actual results of the survey, three concepts have to be properly defined: a search service center, a search intermediary and the user-system interface.

A search service center is any organization or autonomous unit within an organization providing bibliographic on-line search services; operationally, for the purpose of the present survey, it was defined as any customer of commercial online vendors having a distinct password and collecting its own search statistics. For instance, if a University Library having a contract with one or more online vendors, had three different passwords or subaccounts in three different units, say departmental libraries, each of which collecting its own search statistics, then it would be considered as three different search service centers. If, on the other hand, these three units had a unique overall policy and if search statistics were compiled by the Library as a whole, then we would only have one search service center in that organization.

A search intermediary is defined as any person - librarian, staff, operator, technician or specialist - whose job consists, regularly or occasionally, in conducting on-line searches for or with end-users.

Finally, the user-system interface is defined as the physical, intellectual and behavioral context of an on-line search including all pre-search, search and post-search activities.

DATA COLLECTION

Seventeen hundred (1700) mail questionnaires were sent, in March and April of 1979, to most online search service centers in Canada. The first problem encountered was precisely the identification of these search service centers. Because no exhaustive list or record of Canadian online search service centers was available, cooperation from online vendors was essential. Most major online vendors providing search services in or to Canada were contacted and were asked either to provide a list of their customers or to send a copy of the questionnaire themselves.

Altogether, 6 vendors were approached: the Canada Institute for Scientific and Technical Information (CISTI), for its CAN/OLE and MEDLINE customers, QL SYSTEMS LIMITED, INFOMART, SDC's agent in Canada, DIALOG, Bibliographic Retrieval Service Inc. (BRS), and l'INFORMATECH FRANCE-QUEBEC, in Montreal, for users of its SABINE system. All but Lockheed accepted to participate in the survey. And all but one chose to send the questionnaire themselves.

RESPONSE RATE

Altogether, 380 completed questionnaires were returned.

Most of these respondents can be compared to Wanger's managers, that is, individuals, in the organization, who can respond to questions concerning administration and management of its online search service.

Calculating the response rate was a little tricky. Obviously, there is a certain amount of duplication since search service centers surveyed could be using any or all of the aforementioned systems. Furthermore, explicit mention was made, in the cover letter included with each questionnaire (see Appendix 1) to return only one completed questionnaire by search service center.

One way of assessing this duplication was by analyzing the results of question 8 (see table 1) which read: To which of the following online search systems are you linked? and which gave respondents the possibility of checking any or all of the following systems: CAN/OLE, QL SYSTEMS, ORBIT, DIALOG, MEDLINE, CANSIM, SABINE, NEW YORK TIMES, BRS and OTHER.

Taking into account that no questionnaire was sent to DIALOG nor to CANSIM customers as such (minus 206 and minus 48 respectively), nor to customers of any of the systems included in the "other" category (minus 78), we are left with a sum total of 845 which is the estimated duplication figure. These 845 subscriptions correspond to 380 search service centers. Thus there are 380/845 = .45 centers/subscriptions. Hence 1700 subscriptions (the number of questionnaires mailed) correspond to .45 (1700) = 765 users. So the response rate is 380/765 ≃ 49.7%.

SEARCH SERVICE CENTER CHARACTERISTICS

First fifteen (15) questions addressed search service centers and were aiming to outline some of their "socio-geo-demographic" characteristics and their operations.

LINGUISTIC DISTRIBUTION

Because of linguistic characteristics specific to Canada, the questionnaire was bilingual (English-French). A total of 326 or 85.8% of the respondents completed the English version and 54 or 14.2% filled the French version, which is fairly representative (see table 2) of the actual linguistic distribution in Canada, assuming most bilingual respondents completed the English version, although French online centers may be very slightly under-represented.

GEOGRAPHIC DISTRIBUTION (question 2)

Table 3 compares the geographic distribution of on-line search service centers with the overall geographic distribution of the Canadian population. As we can see, except for a very small underproportion of search service centers in Quebec and a tiny overproportion of search service centers in Ontario, the two distributions match almost perfectly, which shows that, on the whole and all other factors being equal, most of the Canadian population have the same access facilities to online search service centers. Of course, other factors never are really equal, and in order for the study to be complete, we should have also considered searchers' geographic distribution, pricing policies, user eligibility, and so on. Nevertheless, the "search service centers: total population" ratio shows that, overall, the development of online search services in Canada, even though not tailored after the geographical distribution of the population, seems very harmonious and uniform.

Table 4 shows the geographical distribution of search service centers by type of organization. As we can see, Ontario has majorities of centers for each type of organization, except for centers in universities (where Quebec has a majority) and in educational institutions (where British-Columbia has a majority).

POTENTIAL POPULATION (question 6)

Question 6 asked for size estimation of the potential end-user population of each search service center, that is, the number of internal users or users who have the right to use its online service . As we can see in table 5 this total potential end-user population is estimated at 1.4 million or about 6% of the total Canadian population.

Dividing the total number of on-line searches conducted in 1978-79 (161,280) by this potential end-user population (1,355,350), we can also see that a maximum of only 11.9% potential Canadian users actually used on-line systems. In other words, only about .007 of the total Canadian population has, in 1978-79, made use of an online search service. Online searching thus remains, if not a very elitic, at least a very specialized service.

PARENT-ORGANIZATIONS (question 1)

The first question described various types of parent organizations providing an on-line search service. Table 6 shows that 28.4% of all search service centers are found in governmental organizations and 24.5% in academic institutions. Industrial and commercial organizations account for 25.5%, while public libraries remain rather marginal as online service providers, with only 1.8%.

Educational institutions included elementary, secondary and collegial centers, specialized teaching centers, administrative educational centers and library schools. Together, they house 6.8% of all on-line search service centers. The "other" category indicated organizations such as: consulting firms, utility companies, hospitals and research establishments.

These figures are quite similar to those reported by Wanger with maybe slightly more governmental organizations in Canada and slightly more industrial/commercial organizations in the United States.

On the other hand, there is a significant difference ($x^2 = 16.7$, significant at the 0.01 level) in the frequency distribution of parent-organizations between French and English centers as shown in table 7, more specifically for public libraries and academic, industrial and commercial sectors.

There, the "other" category refers to: consulting firms (13), utility companies (5), hospitals (5), research establishments (8), paragovernmental units (5), special libraries (4), legal offices (2), information brokers (2), a petroleum company, a national library, a publisher and an advertising agency.

SERVICE UNIT (question 3)

Next question, (see table 8) unsurprisingly and in perfect accordance with Wanger's findings (79.8%) shows that on-line search services are still, to an overwhelming extent (79.5%), being provided in libraries and information centers. All other types of service units thus remain rather marginal: computer center (3.9), laboratory (4.2), autonomous unit (4.5). The "other" category, here (7.6%), refers to units such as "engineering groups" (4), "research departments" (6), "teaching units" (4), "public services" (2), "outside consultants" (2), one "microprocessor development unit", one "cataloguing department", one "claims department", one "technical and scientific support division", one "emergency office", and one "planning department". Five (5) parent-organizations report no special unit for their on-line search service.

EXPERIENCE LEVEL (question 4)

Next two questions respectively tackle the distributions of search service centers' experience levels and volume of searches conducted. They show that Canadian search service centers have an overall average 2.5 years experience, universities emerging as veterans with slightly over 3 years and public libraries being the rookies with only 1.28 years. There seems to be a significant difference (see table 9) with Wanger's findings on experience levels.

Of course, Wanger's survey was conducted almost 5 years ago. Nevertheless, keeping that in mind, we can deduct that american search service centers would be about 2 to 3 years more experienced, overall, than their Canadian counterpart.

NUMBER OF SEARCHES CONDUCTED (question 5)

As for the volume or number of searches conducted, we can see in table 10 that altogether, Canadian search service centers conducted 161,280 on-line searches in 1978-79. Figure 1 shows the frequency distribution of online searches conducted (see questionnaire, appendix 1, question 5) each month in all search service centers. All categories of parent-organizations have the same distribution shape. This represents an average 430 annual searches per search service center. As expected, universities come in way ahead with an average 666.1 annual searches and commercial organizations seem to be most sober with an average 212 searches a year.

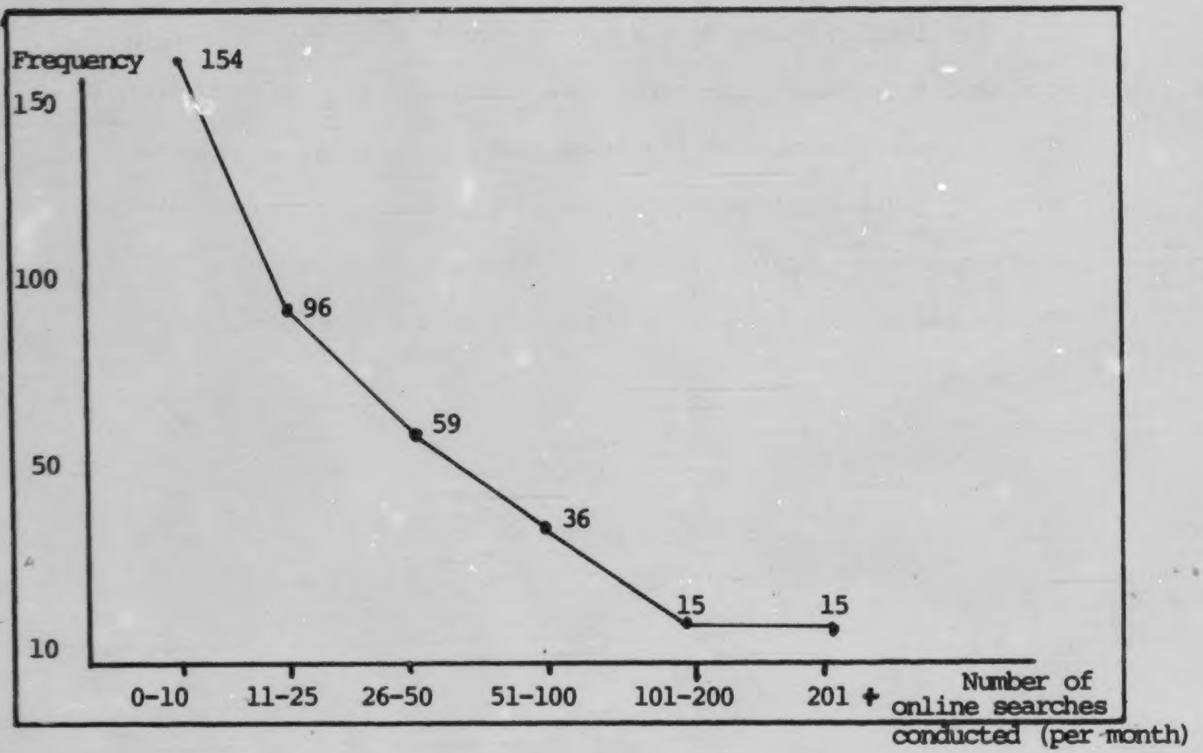
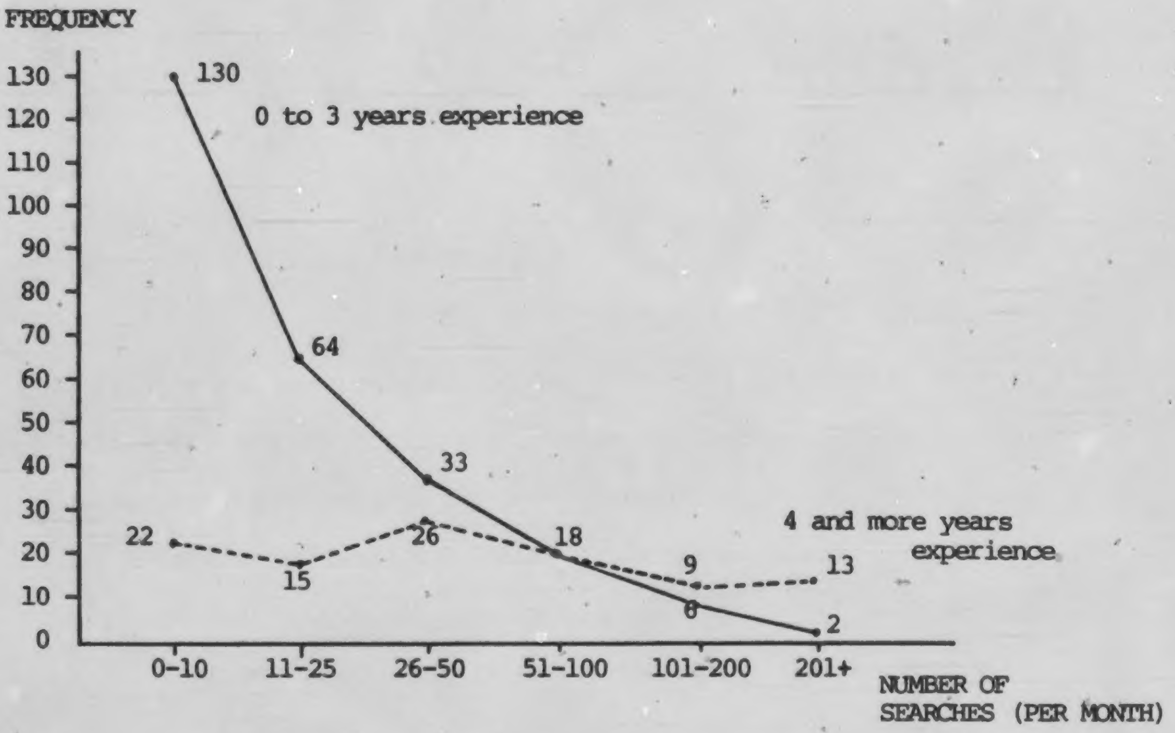


Figure 1: Frequency distribution of online searches conducted (per month)

EXPERIENCE LEVEL BY NUMBER OF SEARCHES CONDUTED

It is also interesting to crosstabulate experience level with volume of searches. As we can see in figure 2, there is a significant difference in volume of searches between search service centers with various experience levels. For instance, centers with anything from 0 to 3 years experience follow the same decreasing monotonous distribution when it comes to volume of searches; in other words, the frequency of search service centers decreases when the number of searches conducted increases. However, this distribution gradually changes in search service centers with more than three years experience to a monotonous increasing distribution for centers with more than five years experience. In this case, there are increasingly more centers conducting more and more searches. This can be explained by the fact that the more experienced centers are universities which are also the highest consumers of online searches.

FIGURE 2: EXPERIENCE LEVELS BY NUMBER OF ONLINE SEARCHES CONDUCTED (PER MONTH)



CATEGORIES OF ELIGIBLE USERS (question 7)

The next question referred to categories of eligible end-users and shows that, to a large extent (62.2%), on-line searching is still very much "restricted" as a service of the parent organization. In other words, access is being limited to people who are part or client of "parent-organizations". Here, the "other" category contained mainly "authorized or specified persons" (23) and "organization's clients" (6), both labels relating mainly to "internal end-users".

CANADIAN ON-LINE SEARCH SERVICE MARKET

We already had a glance (see table 1) at one of the next questions listing various online systems and data bases used, and describing the Canadian online search service market.

Table 12 shows that, as of Spring 1979, this "market" comprised some 1185 "customers" or 380 search service centers to 49 different online systems (see tables 14 and 15) offering access to 182 different data bases (see table 18).

Obviously, however, this "market" is only as defined by survey respondents (49.7% response rate). The real Canadian online market probably shows larger figures than those reported here.

ON-LINE SYSTEMS (question 8)

Fifteen (15) online systems occupy most of the search service market as we can see both in figure 3 and table 13. As previously mentioned, however, only CAN/OLE'S, QL'S, ORBIT'S, MEDLINE'S, SABINE'S, NEW YORK TIMES'and BRS'S customers received a copy of the questionnaire. Hence, frequency figures for DIALOG, CANSIM, INFOGLOBE, BADADUQ, RESORS, DOW JONES, SPIRES and BATTELLE systems are reported by customers of other online systems. Not included, here, then, are organizations which would only use one or more non-participating systems. This is also confirmed in table 14 listing use frequencies of all online systems and combinations of online systems. Most of the other systems listed are for internal use only. As we can see from figures presented in table 12, four (4) systems: ORBIT, CAN/OLE, DIALOG and QL occupy almost 75% (73.6%) of the Canadian online market, ORBIT showing the largest number of subscribers (24.5%). Here, "use" must be understood in the sense where a search service center is linked or subscribing to an on-line system. It does not refer to the volume of use or number of searches conducted on each system.

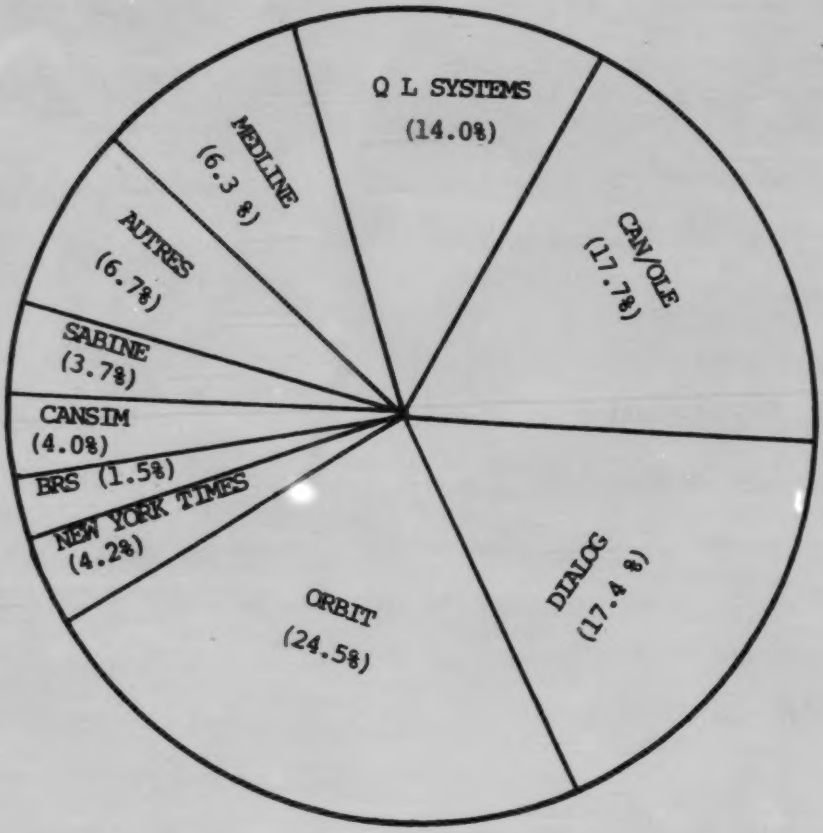


FIGURE 3: OVERVIEW OF THE CANADIAN ONLINE SEARCH SERVICE MARKET : ONLINE SYSTEMS.

Furthermore, the survey indicates that, on average, each Canadian search service center has access to 3.1 online systems (with a mode of 2 systems). This is significantly more than the average 1.96 found by Wanger (with a mode of 1) but then again, when Wanger conducted her survey in 1974-75, many online systems were only beginning their operation and the whole online business was fairly new. The survey also shows that public libraries (4.7) and universities (4.1) are heaviest consumers, each averaging more than 4 systems.

ONLINE SYSTEM USAGE (question 9)

As I already mentioned in the introduction, certain data were also needed for an experimental research on the ideal online search mode. These included inter-relative or comparative use frequency of the four online systems used in the experiment, that is, CAN/OLE, QL, ORBIT and DIALOG. Hence the survey included a question where respondents were asked to rank these four systems according to their respective use frequency. Ranks were then converted into scores by assigning scores inversely proportional to ranks, that is, score 4 was assigned to rank 1, score 3 to rank 2, score 2 to rank 3 and 1 to rank 4. As we can see in table 16, ORBIT ranks first with a total score of 921 or 35.9% of all scores; DIALOG ranks second (27.1%), CAN/OLE third (22.9%), and

QL fourth (14.1%). These findings which, of course, are only relative, will serve, in the experiment, to assess validity of the frequency distribution of system use, the choice of the system having been left to end-users and search intermediaries.

DATA BASE USAGE (question 10)

The next question asked for each center's five most heavily used data bases, in decreasing ranked order of use. Altogether, 121 different data bases were mentioned (see table 18), which represented at the time, about 2/3 of all available data bases (182). Again, ranks were converted into scores (from 5 to 1) in the same manner as for online systems. Table 17 presents a list of the ten most used data bases, along with the total number of checks each data base received and its combined score and overall rank. Of course, these are only relative ranks because the actual usage volume of a data base ranked second by one organization may be quite different from another one ranked second in another organization. Indeed, question 10 also asked for the actual number of searches conducted on each data base listed but unfortunately, in most cases, these figures were not given by respondents.

However, some interesting observations can be drawn from this table. For instance, out of these 10 most used data bases, 9 are "subject" or "discipline" oriented and only one (NTIS) specializes in form or type of documents covered. We have six (6) "science" and three (3) "social science" oriented data bases and one (NTIS) is "multidisciplinary".

Altogether, these 10 data bases account for 54.6% of all checks and for almost 60% (59.9%) of all combined scores assigned to all 121 data bases.

Table 18 presents the complete list of all data bases mentioned along with their rank, score, and frequency distribution, overall and by region.

Next four questions aimed at describing a few search service centers operating procedures such as the most popular mode for compiling bibliographies and answering quick reference questions, search request formats accepted, cost recovery policy and standardized forms or procedures for search requests, search evaluation and search statistics.

BIBLIOGRAPHIC SEARCH METHODS (question 11)

Question 11 asked respondents to indicate which of the following methods, manual, batch or online, was most used for 1) compiling bibliographies and 2) answering quick reference questions (informations, inquiries, factual searches). Here again, respondents were asked to rank each method (from 1 to 3) and ranks were then converted into scores (from 3 to 1).

Findings indicate, (see table 19) first, that manual searching, although still being used 40.3% of the time, has now yielded the way to online searching in a proportion of 53.4%, as the most popular method for compiling bibliographies. This proportion, however, is reversed when it comes to answering quick reference questions, where manual methods still prevail 60.4% of the time. Nevertheless, online searching, with almost 40% of the scores is quite surprisingly highly accepted for this type of information work. It is very likely, with the creation of and greater accessibility to factual and numerical data bases,that the online method will replace manual searching, in a foreseable future, even for answering quick reference questions. In both cases, batch or off-line searching remains very marginal with only 6.3% of use for compiling bibliographies and an absolute non-use for answering quick reference questions. These distributions however slightly vary (see table 20) in commercial organizations and public libraries, where manual searching still prevails for compiling bibliographies.

SEARCH REQUEST FORMATS (question 12)

Next, respondents were asked to check any or all of the following search request formats accepted: by mail or telex, by phone, in person by the end-user himself or herself, in person by an end-user's representative, or they could specify any other format accepted. As we can see in table 21, the most frequently checked formats were "in person, by the end-user himself or herself" with 35.1% of the checks, "by phone", with 26.8% and "in person, by end-user's representative" with 22.3%. A further analysis was made of the various combinations of formats used by search service centers (see table 22). It indicates that all five (5) most popular formats (74.6% altogether) include the requirement that the request be submitted by the end-user himself or herself.

Interestingly enough, three (3) organizations mentioned "E.S.P." as a search request format, and that is when the librarian "guesses or decides if and when an online search is needed". "Internal memos" are used in five (5) organizations and two (2) organizations have "not yet decided".

COST RECOVERY POLICY (question 13)

Distribution of cost recovery policies is also quite interesting and rather surprising. As we can see in table 23, 45.5%, almost half of the respondents operate on a free basis for their users. On the other hand, only 16.8% recover all or more (profit) of their original investment.

As could be expected, however, very significant differences exist, in cost recovery policies, between different types of organization. For instance, while more than 60% of governmental (69.9%), industrial (69.9%), and commercial (63.6%) organizations fully subsidize their online search service, universities (87.9%) and public libraries (100%) mostly work on a partial and even total cost recovery basis, while most organizations making some profit with their online search service come from the commercial sector (9.1%). And as we can also see, in table 23, those figures and distributions are quite similar to those reported by Wanger in 1974-75 which would tend to indicate that no significant changes have occured, in five (5) years, regarding cost recovery policies notwithstanding a tangible reduction in the operational costs of online searching. The increase in income for search service centers has most likely been absorbed by an increase of users and by a constant sophistication in the quantity and quality of services.

STANDARDIZED FORMS (question 14)

As for standardized forms and procedures, over 50% of search service centers report (see table 24) using both a search request form (50.8%) and a search statistics form (53.2%). This is normal since there usually is a need for uniformization and standardization to facilitate search preparation and to collect some data on cost, time and other search characteristics such as systems and data bases used, number of citations printed and so on. Indeed, it is rather surprising that there are relatively so few organizations reporting such forms. What is really surprising, though, is the very small proportion of search service centers, only 14.7%, having some search evaluation form. This is all the more peculiar when related to the fact that 45.5% of search service centers operate on a free basis for their users which would normally require some effort to mazimize or at least control cost-effectiveness and searcher's efficiency.

Public libraries and academic and governmental organizations show highest proportions of reported search request, search statistics and search evaluation forms, while commercial institutions indicate very low usage of all these forms.

SEARCH PREPARATION AND SEARCH MODES (question 15)

Next question was at the core of the whole survey. It asked respondents to rank three different methods - delegated, direct and combined - with respect to their degree of use for preparing and conducting online searches. These methods or modes were defined as follows:

> the delegated mode is when the search intermediary prepares or conducts the search alone, on behalf of the end-user;
>
> the direct mode is when the end-user prepares or conducts the search alone, unassisted;
>
> and
>
> the combined mode is when both end-user and search intermediary prepare or conduct the search together.

Converting ranks (from 1 to 3) into scores (from 3 to 1), the analysis shows (see table 25) that the typical on-line searching set up in Canadian search service centers is a combined preparation mode (with 48.3% of the scores) and a delegated mode (with 52.4% of the scores). In other words, the most common procedure is for the end-user and search intermediary to prepare the search together and then for the search intermediary to conduct the search alone.

These patterns, however, slightly vary from one type of organization to another. For instance, the delegated mode is the most popular for preparing searches in industrial (48.2%), commercial (57.4%) and educational (46.7%) organizations while the combined mode is prefered for conducting searches in universities (49.3%) and public libraries (48.6%). Thus it would seem, at first sight, that end-users are more involved, both in the preparation and in the actual conducting of their online searches, in universities and public libraries, as indicated by their preference for the combined mode. On the other hand, industrial, commercial and educational organizations seem to favor delegating both search preparation and actual search.

Finally, although still quite marginal, the direct approach seems to be mostly priviledged in governmental organizations, both for preparing (15%) and conducting (14.7%) searches, closely followed by industrial and educational institutions.

The "other" search preparation and search modes mentioned in the survey are: "various combinations of all these methods, depending on end-user's character and ease of understanding"; "the searcher prepares the search and the user is in attendance"; "we have two intermediaries: the search is prepared by one intermediary in conjunction with end-user and is modified and performed by the second intermediary"; "we train and assist end-users"; "searches are done by end-users under the guidance of an intermediary".

In her survey, Wanger had defined five (5) different modes of alternative searcher/user interactions. When clustered in identical categories, patterns found in the present survey show striking similarity with hers (see table 26). For instance, in both surveys, about 52-53% of searches reported fall into the delegated search pattern, 36-37% follow the combined method, and about 9 to 10% come from the direct mode.

However a survey conducted in 1975 by D.B. Marshall in 129 american academic libraries shows quite different patterns for this type of organization (see table 26) where the delegated mode is favored in a proportion of 83.1%.

SEARCH MODE BY LANGUAGE

A number of other crosstabulations were also conducted between preparation and search modes and other search service center characteristics. For instance, although this may not be a fundamental difference, French and English search service centers slightly differ when it comes to preparing searches (see table 27), French service centers favoring the combined and direct approaches in relatively higher proportions (54.5% and 17.8% respectively) than English centers (46.3% and 10.6%). This may, in fact, be due to language problems; most data bases being indexed with an English vocabulary, intermediaries rely more heavily on user's participation in the search preparation. However, when it comes to actually conducting the search, both French and English centers follow exactly the same patterns.

OTHER CROSS-TABULATIONS

On the other hand, there is no significant difference at all in use patterns of search preparation modes or search modes, between search service centers with various experience levels (table 28), or different potential end-user populations (table 29), or various categories of eligible end-users (table 30), or using different online systems (table 31), or, as we will see in the following pages, with different search intermediaries' job (table 32) or subject (table 33) specialization.

In other words, all search service centers, notwithstanding any of the aforementioned characteristics, follow the same overall pattern,and in about the same proportions,of favoring the combined mode for preparing searches and the delegated mode for conducting searches.

SEARCH PREPARATION AND SEARCH MODE BY COST RECOVERY POLICY

There is, however, one last exception to this pattern. Indeed, we find slight differences in the most popular approach, both for preparing and conducting searches, between search service centers having adopted different cost recovery policies (see table 34). Hence, while centers offering free searches to their customers tend to favor the delegated mode both for preparing and conducting searches, probably because of cost-effectiveness reasons, centers with complete cost-recovery policies rather prefer the combined mode in both cases, probably for self-justification purposes.

SEARCH INTERMEDIARY CHARACTERISTICS

Most of the remaining questions relate to search intermediaries and aim at highlighting, quantitatively as well as qualitatively, some of their chief characteristics and functions.

NUMBER OF SEARCH INTERMEDIARIES (question 16)

Overall, the 380 Canadian search service centers have reported a total 928 search intermediaries (see table 35). Numbers of search intermediaries range from 1 in 120 organizations to a maximum 20 in one organization. Only 39 organizations report not having any identified search intermediary for their online search service. Table 36 shows the frequency distribution of search intermediaries reported, overall and by type of organization. As we can see, the average number of search intermediaries varies quite significantly from one type of organization to another, reaching a high 4.29 in public libraries and a low 1.6 in industrial and commercial organizations, and showing an overall average 2.4 search intermediaries in Canadian search service centers.

Most organizations reporting no search intermediary at all come from commercial (18.2%) and industrial (13.3%) sectors.

JOB SPECIALIZATION (question 17)

Search intermediaries can also be distributed according to their job specialization. As we can see in tables 37 and 38, 60.3% of all search intermediaries are search specialists, that is, people who devote most of their time to reference or information activities, including - but not exclusively - online searching. About 31.8% are non-specialists, devoting most of their time to activities other than searching or online searching. Finally, 7% are online search specialists or "online search professionals" who devote all or most of their time to online search activities.

While the highest proportion of online search specialists is found in governmental organizations (91.8%), public libraries provide relatively more search specialists than any other type of organization (90%) and commercial organizations show the highest proportion of non-specialists (45.9%).

These findings indicate that, to an overwhelming extent (more than 92%), online searching, as far as can be indicated by search intermediary's job specialization, is very much part of either a broader information retrieval process or research activities. In other words, it does appear that, rather than creating exclusive online searching jobs, online searching activities have either been integrated to information professionals' usual tasks or added to modern researchers' activities.

SUBJECT SPECIALIZATION (questions 18 and 19)

Next two questions aimed at establishing the frequency distribution of "generalist" search intermediaries, as opposed to those who are"subject specialists"(eg. specialized in a discipline in addition to library and information science), and at determining in what proportion "subject specialist" search intermediaries conduct their online searches in their own subject speciality.

Tables 39 and 40 show that, of all search intermediaries reported in Canadian service centers, there are slightly more generalists (52.9%) than subject specialists (45.4%).

Universities (54.3%) and other educational institutions (58.1%) report highest proportions of subject specialists, while public libraries (80%), and industrial (69.2%) and commercial (77.8%) organizations show high majorities of generalists.

Respondents were also asked whether their subject specialist intermediaries usually conduct searches in their own speciality or discipline. As expected (see table 41), almost 90% subject specialists are reported conducting searches in their own area of specialization, if not always (24) or most of the time (83), at least some of the time (51).

TRAINING METHOD (question 20)

Next three questions relate to search intermediary's training.

Table 42 shows that the most popular training method (in a proportion of 29.8%) is "formal training by system representatives for all available search intermediaries". "Formal training by data base representatives" also seems to be quite current (23.6%). Together, formal training methods account for more than 65% of all methods used.

Popularity of the method also varies from one type of organization to another. For instance, although all organizations have ranked formal methods first, public libraries equally favor

(33.3%) "local training by the most expert search intermediary", and commercial organizations show a fairly high proportion (21.9%) of "self-training".

Respondents were then asked (question 21) whether their search intermediaries are trained on all available systems, if so, whether they actually use all systems on which they have been trained, and if not, on what basis do they specialize (question 22). As indicated in table 47, 76.1% of the respondents report that all (54.5%) or some (21.6%) of their intermediaries are, if fact, trained on all available systems, which may come as a surprise if we consider the large number of online systems available today and actually used in Canada (49) and especially the fact that Canadian search service centers report, as we have seen, being linked to an average 3.1 online systems.

However, these findings are largely attenuated by the fact that, even if trained on all available systems, only about 48.1% of all search intermediaries equally use all of them afterwards. Consequently, only 36.9% of all search service centers report that their search intermediaries equally use all available systems. This clearly indicates a trend in some degree of system selectivity, independent of previous training.

Although no basis for use specialization clearly predominates, "specialization in a discipline or subject area" seems to be quite common (38.1%). This would also tend to confirm the idea that online searching is task oriented or part of a broader information retrieval process.

Other specialization bases include: comfort or familiarity with the system (14), first-learned system (3), system's cost-effectiveness (5), and so on. These patterns also indicate a clear need for some permanent or on-going training program including, for instance, refresher courses, updates and even occasional relearning.

SEARCH INTERMEDIARY'S INVOLVEMENT AND AUTONOMY IN ONLINE ACTIVITIES

(question 23)

The next question was a long one. Its purpose was to measure the degree of involvment and autonomy of search intermediaries in various pre-search, search and post-search activities. Respondents were thus asked to check, for each of 13 pre-search activities, 13 search activities and 6 post-search activities, whether they "made all decisions alone", "simply assisted end-users", "only explained" or "whether they did not participate at all" in the activity. They could also check any combination of the above options to describe their participation in each activity.

A score was then assigned to each option according to intermediary's overall degree of involvment and autonomy (see figure 4).

FIGURE 4: ONLINE ACTIVITIES: SCORES ASSIGNED TO EACH OPTION AND COMBINATION OF OPTIONS REPRESENTING A DEGREE OF INVOLVEMENT/AUTONOMY BY SEARCH INTERMEDIARIES.

OPTION	SCORE
DECIDE (do alone)	7
DECIDE & ASSIST	6
DECIDE & EXPLAIN	5
DECIDE & ASSIST & EXPLAIN	4
ASSIST & EXPLAIN	3
ASSIST	2
EXPLAIN	1
DO NO DO OR PARTICIPATE	-7

Hence, the most involved situation for a search intermediary is when he or she has to do everything and make all decisions alone; it was assigned 7 points. Its negative counterpart, when he or she does not participate at all in the activity, was assigned minus 7 points. All other options are intermediate levels of involvment and have been assigned from 1 to 6 points. Consequently, scores can range from -100 to 100 and a negative score can be defined as an activity in which search intermediaries are most often not involved at all. All logical "&" (and's) in figure 4 should be taken as logical "or's", signifying that respondents sometimes decided alone, sometimes assisted and sometimes explained.

PRE-SEARCH ACTIVITIES

Table 44 presents, for all search service centers in Canada, the frequency distribution for each option and for each pre-search activity; it also includes the distribution of scores, according to the ponderation presented in figure 4.

Moreover, these scores have been calculated (see table 45), for each pre-search activity, by type of organization.

Table 46 summarizes all pre-search activities, including, for each activity, the overall degree (%) of search intermediary's involvement/autonomy in this activity, its rank and the type of parent-organization where search intermediary's involvement/ autonomy is maximal and minimal.

This last table indicates, for all pre-search activities, an overall degree of 68% involvement and autonomy by search intermediaries. In other words, end-users would contribute about 32% of the decision-making in presearch activities. This proportion can confirm, to a certain extent, the fact that most respondents preferred the combined approach for preparing online searches (question 15).

"Use of printed aids" seems to be the activity where search intermediaries are most involved and make most of the decisions (80.3%). On the other hand, the decision to "select online searching as one way of obtaining needed information" seems to be left to end-users in the largest proportion (45%). Overall, however, we can see that search intermediaries are quite involved in most of these pre-search activities. Public libraries (79%) and industrial organizations (78.8%) show highest percentages of involvement, while universities report a low 57.4%.

Selection of search logic (75.2%), search terms (68.9%), additional access points (such as authors, subject codes, and so on) (74.8%) and selection of online system (74.8%) and data base (74.2%) are other pre-search activities in which search intermediaries are most involved and autonomous.

SEARCH ACTIVITIES

We now come to search activities, that is, activities occurring during the search. Table 47 presents the frequency distribution of all thirteen (13) search activities along with their averaged score. Table 48 presents these same distributions by type of parent-organization. Finally, table 49 gives an overview of search activities and reveal an overall 84.2% search intermediaries' involvement in search activities, public libraries (91.3%) and educational (92.5%) and industrial organizations (91.5%) showing highest percentages, all over 90%, and governmental (79.4%) and academic institutions (79.8%) indicating lowest percentages, still of almost 80%.

These figures would indicate a 15.2% maximum degree of involvement by end-users during the search and would also tend to confirm results of question 15 on search modes, which indicated a marked preference for the delegated mode.

Most involving search activities for intermediaries are: "search protocols (that is, log on and log off procedures)" (93.1%), "communications procedures" (91.2%), "operating the terminal" (93%), "selection and use of search commands" (92.3%), and "consulting user manuals" (91.9%). On the other hand, "decision to modify the search strategy" (74.4%), "choice of output format" (76.4%) and "review of search history" (77%), although still highly involving search intermediaries, are search activities where end-users' participation and decision-making reaches a peak.

POST-SEARCH ACTIVITIES

Finally, post-search activities, that is, search-related activities occurring after the search, show a low 45.6% degree of search intermediary's involvement and autonomy (table 50) with a high of 73.4% in commercial organizations, where the "service approach" seems to be priviledged, and lows of 21.4% in universities and of 28.6% in public libraries, where the online search, as such, almost seems to end with the terminal work, except maybe for the "reception of off-line prints" (87.3%). One striking characteristic of these distributions (tables 50, 51 and 52) is the wide range of involvement percentages: from 87.3% for "reception of off-line prints" to -16.5% , or a total non-involvement of search intermediaries in "examining documents and extracting pertinent information from them", this activity being almost completely left to end-users.

ONLINE ACTIVITIES: SUMMARY

Overall, search intermediaries show a 65.9% involvement and autonomy in online activities, that is, all activities pertaining to an online search, whether it occurs before, during of after terminal work (table 53).

Search activities reveal the highest proportion of involvement with 84.2%, while pre-search activities indicate 68% and post-search activities, a mere 45.6%.

These findings also indicate that search intermediaries who do get involved in online activities spend 34.3% of their time in pre-search activities, 42.6% in search activities and 23.1% in post-search activities.

This seems to indicate that end-users are indeed quite involved (34.1%) in decision-making pertaining to online activities. It would be interesting now to correlate these percentages with some search effectiveness measure to see whether and how the degree of search intermediary's involvement in a given activity affects, say, precision or recall or cost-effectiveness figures.

Overall, universities show the lowest percentage of intermediary's involvement and autonomy (52.9%), thus indicating a trend to more actively include their end-users in all activities pertaining to their on-line searches. Industrial (75.2%) and commercial organizations (77.7%), on the other hand, seem to rather favor the "service approach" as indicated by their high percentages of search intermediary's involvement and autonomy. Indeed, these figures can also reflect a real-life situation where end-users in industrial and commercial organizations are probably much more concerned by obtaining the actual information they need than by getting actively involved in the bibliographical search process itself, albeit online searching.

On the other hand, it is probably much more important that this bibliographical search process, in universities, be "active" (or involving the requester), because of the nature of their information need and also because information searching is a basic part of teaching or research.

TUTORIAL ACTIVITIES

It is interesting to note that these preceding findings are confirmed by the results of next question (question 23.2) on tutorial activities (see tables 54 and 55) where 71.3% of respondents in universities report that most of their search intermediaries participate, one way or another, in tutorial activities, and where industrial and commercial organizations show low degrees of 37.3% and 48.2% respectively.

The most "popular" tutorial activities or, in other words, the most "explained" features are: "general description of online searching" (75.3%), "data base subject and document coverage" (73.6%) and "manual search description or how to use corresponding printed indexes and abstracts" (65.3%). "Cost structure" (40.7%) and "data base indexing policy" (38.6%), on the other hand, rank rather low as tutorial concerns. Overall, only 55.4% of respondents indicate that most of their search intermediaries are involved in some search related tutorial activities, which is surprisingly low.

Moreover, general tutorial activities, such as giving workshops, lectures, demonstrations and helping develop marketing and promotion programs and tools, seem to be of even lesser concern to most search intermediaries with only 42.7% reporting any involvement. Search service center managers are usually responsible for these general tutorial activities.

RESPONDENTS' OPINION ON END-USERS' WILL AND ABILITY TO CONDUCT THEIR OWN ONLINE SEARCHES (questions 24 and 25)

The last two questions (see table 56) were opinion questions: they asked, first, whether, in respondent's opinion, end-users would be willing to conduct their own online searches, were they permitted and properly trained, and second, how could their results then compare with those of search intermediaries?

As is often the case with this kind of question, over 40% of respondents either couldn't tell or simply did not answer. Some 39.4% of respondents, however, think end-users would not be willing to conduct their own searches even if they were permitted and properly trained, mostly because they don't have enough time, or because they don't use online systems often enough to be efficient.

However, and this is quite interesting, almost equal proportions of respondents think that, if they did conduct their own searches, on one hand, end-users' results would be poorer (29.5%), and on the other hand, they would either be better or approximately the same (28.9%).

Hence it would seem that the reason end-users do not conduct their own searches more often is not that they wouldn't be able to, but rather that they do not want or have the time to do so. Consequently, in certain information situations where, for instance, end-users would want to conduct their own searches, it would be interesting to know whether other characteristics - and if so, which ones - help discriminate and predict an ideal search mode, that is the search mode where most performance measures, such as search effectiveness, searcher's efficiency, cost-effectiveness and user satisfaction, would be maximized. That is precisely the core objective of my on-going experimental research.

CONCLUSION

In conclusion, then, I can say that the present survey have indeed reached its two major objectives to first, provide data on online search service centers in Canada and second, serve as a reliable context and foundation for the search experiment.

Even though it would have been preferable that all online vendors participate in the survey, results remain, overall, fairly representative and valid. Obviously, it could have been possible to add a number of other questions such as the average length of a search, for instance, but the objectives of the survey and the usual time and money limitations required a severe selection in questions. Nevertheless, I hope most respondents and the whole Canadian online community can find some bits of useful information or data in these results.

Hopefully, these two pieces of research - the survey and the experiment - will contribute to describe, explain and even maybe optimize the role of human search intermediaries in the user-system interface of bibliographic online search services.

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APPENDIX I: COVER LETTER
QUESTIONNAIRE: RAW RESULTS

Dear colleague,

Yes, this is another one of those mail surveys! I apologize for proceeding this way, but I believe the purpose of this survey, which is to provide the Canadian online community with an overall picture of itself, is extremely important at this time. This survey is also a preliminary study to my doctoral research at the School of Library and Information Science, University of Western Ontario, being carried out under the supervision of Dr. Jean Tague.

May I, therefore request a little bit of your time - 40 minutes at most - to fill out the enclosed questionnaire about your on-line search service? If you have already received and filled out a copy of this questionnaire, please ignore this letter.

All respondents to this survey who will have identified themselves, i.e. filled page 1 of the questionnaire, will receive a complimentary copy of the summary statistical results. These will include items such as:

- the size of the Canadian online community;
- distribution of search service centers in Canada;
- types of organizations doing online searches;
- modes of online searching;
- characteristics and role of search intermediaries;
- most popular data bases;
- volume of online searching.

The privacy and anonymity of all respondents will, of course, be respected. No individual organization or name will be mentionned or treated as such in the report.

Such a survey will yield useful data for all organizations and personnel involved in online searching. Please fill the appended questionnaire and return it, as soon as possible, in the enclosed envelope.

I thank you in advance for your collaboration. I will be sending you your survey results copy as soon as the data have been compiled and analysed (approximately by the end of summer 1979).

Gilles Deschatelets

Gilles Deschatelets
Bibliothèque Scientifique
Université Laval

A SURVEY OF BIBLIOGRAPHIC
ON-LINE SEARCH SERVICES
IN CANADA.

Please fill in the following questionnaire and return as soon as possible in the enclosed envelope.

This page is optional. If you wish to receive a complimentary copy of the summary results, please fill in the information requested below. If you wish to remain anonymous, please turn to the next page.

NAME OF RESPONDENT: MR MS 380 respondents

TITLE OF RESPONDENT: ______

NAME OF ORGANIZATION: ENGLISH: 326
FRENCH: 54

ADDRESS: ______

PROVINCE: ______ POSTAL CODE: ______

PHONE: (   ) ______
area code

SEARCH SERVICE CENTER

1. Which of the following best describes your organization? (check one box only)

    0. 108 governmental
    1. 75 industrial
    2. 22 commercial
    3. 93 university
    4. 26 educational (but not university)
    5. 7 public library
    6. 48 other (please specify): ______________________

    1 MISSING

    ____

2. In which of the following regions is located your online search service?

    0. 35 Atlantic
    1. 81 Quebec
    2. 154 Ontario
    3. 68 Prairies
    4. 42 British Columbia
    5. 0 Yukon and Territories

3. Which of the following best describes the department/division/section, within your organization, where the online search service is provided? (check one box only)

    0. 302 library or information center
    1. 15 computer center

2. 16 laboratory

3. 17 autonomous unit

4. 29 other (please specify): ____________________

1 MISSING ____________________

____

4. How long have you been operating your online search service?

0. 58 less than one year

1. 61 1 year

2. 83 2 years

3. 71 3 years

4. 43 4 years

5. 32 5 years

6. 27 more than 5 years

5 Missing

5. How many online searches (one online search = one database searched for one search request) have you conducted, each month, (on average) during the last year?

0. 154 0 - 10

1. 96 11 - 25

2. 59 26 - 50

3. 36 51 - 100

4. 15 101 - 200

5. 15 201 and more

5 Missing

6. What is the size of the potential end-user population (e.g. internal users or users who have the right to use your services) of your on-line search service?

0. 10 less than 100
1. 98 101 - 500
2. 43 501 - 1,000
3. 57 1,001 - 5,000
4. 27 5,001 - 10,000
5. 13 10,001 - 20,000
6. 36 20,001 and more

2 Missing

7. Who has access to your online search service?

0. 12 any end-user (no restriction)
1. 21 internal end-users only (people from parent organization)
2. 29 other restrictions (please specify): ____________

5 Missing ____

____

____

8. To which of the following online search systems are you linked? (please check all appropriate boxes)

0. 210 CAN/OLE
1. 166 QL SYSTEMS
2. 290 ORBIT (SDC INFOMART)
3. 206 DIALOG (LOCKHEED)
4. 75 MEDLINE (NLM)
5. 48 CANSIM (STATISTICS CANADA)

6. 44 SABINE (INFORMATECH FRANCE QUEBEC)

7. 50 NEW YORK TIMES INFORMATION BANK

8. 18 BIBLIOGRAPHIC RETRIEVAL SERVICES (BRS)

9. 78 other (please specify): ____________________

9. Please rank the following online systems (from 1 tc 4) in order of your frequency/volume of use. Ex: 1= most used, 2= second most used, etc. Please leave blank when system is not used at all.

0. 3 CAN/OLE (CISTI)

1. 4 QL SYSTEMS

2. 1 ORBIT (SDC/INFOMART)

3. 2 DIALOG (LOCKHEED)

10. What are, in decreasing order of importance, the five (5) data bases (or files) most heavily used by your online search service, in the last year? Ex: 1= most used. 2= second most used, etc.

RANK	NAME OF DATA BASE	NUMBER OF SEARCHES (if available)
1	COMPENDEX	
2	CHEMCON	
3	NTIS	
4	INFORM	NOT AVAILABLE IN MOST CASES
5	ERIC	
6	BIOSIS	
7	PSYCH. ABSTRACTS	
8	MEDLINE	
9	INSPEC	62
10	MANAGEMENT	

11. Please rank the following with respect to their relative importance (volume) in your organization, for: (Ex: 1= most used, 2= second most used, etc. Please leave blank if not used at all)

a) Compiling bibliographies:

0. [2] manual searching by staff

1. [3] batch or off-line searching

2. [1] online searching

b) Answering quick reference questions:

0. [1] manual searching by staff

1. [3] batch or off-line searching

2. [2] online searching

12. Which of the following search request formats do you accept for your online search service (please check all appropriate boxes)?

0. [135] by mail / telex

1. [266] by phone

2. [249] in person by end-user him/herself

3. [222] in person by end-user's representative

4. [10] other (please specify): ____________________

[12] Missing ____________________

____

13. Do you operate your online search service on a (check one box only)

0. [173] free basis

1. [129] partial cost recovery basis

2. 57 complete cost recovery basis

3. 7 for profit basis

14 Missing

14. Do you have a standardized procedure (form) for: (please check all appropriate boxes):

		YES	NO	MISSING
0.	Search preparation / search request	193	181	6
1.	Search evaluation	56	318	6
2.	Search cost and search statistics	202	171	7
		451	670	19

15. Which of the following best describes your mode of operation for: (Please rank them in order of frequency of use. Ex: 1= most used, 2= second most used, etc. Please leave blank if not used at all)

a) Preparing online searches:

0. 2 delegated mode (the search intermediary prepares the search alone, on behalf of the end-user)

1. 3 direct mode (the end-user prepares the search alone, unassisted)

2. 1 combined mode (the end-user and the search intermediary prepare the search together)

3. 4 other (please specify): ____________________

b) Conducting online searches:

0. 1 delegated mode (the search intermediary conducts the search alone on behalf of the end-user)

1. 3 direct mode (the end-user conducts the search alone, unassisted)

2. [2] combined mode (both the end-user and the search intermediary are present at the terminal during the search)

3. [4] other (please specify): ______________________

____

____

SEARCH INTERMEDIARIES

Please complete this section only if your organization provides search intermediaries, i.e. librarian or staff or operator or technician or specialist whose job consists, regularly or occasionally, in conducting online searches for or with end-users.

---

16. How many search intermediaries do you have?

928

17. How many of your search intermediaries are:

0. [65] on-line search specialists (devote most of their time to online searching)

1. [560] search specialists (devote most of their time to reference or information activities, including online searching)

2. [295] non-specialists (devote most of their time to activities other than searching or online searching)

[8] Missing

18. How many of your search intermediaries are:

0. [421] subject specialists (specialized in a discipline other than library and information science)

1. [491] generalists

[16] Missing

19. Do your "subject specialist" search intermediaries conduct searches in their own speciality or discipline?

0. 24 always
1. 83 most of the time
2. 51 sometimes
3. 12 never
4. 6 cannot tell

20. How are your search intermediaries trained? (check all appropriate boxes)

0. 222 formal training by system representatives for all search intermediaries
1. 91 formal training by system representatives for one or a few search intermediaries
2. 125 local training by the most expert search intermediary (ies)
3. 119 self-training (search intermediaries are on their own)
4. 175 formal training by data base representatives for concerned search intermediaries
5. 12 other (please specify): ______________________

____

____

____

21. Are your search intermediaries trained to use all online systems to which you have access?

0. 207 yes, all intermediaries are
1. 82 yes, some intermediaries are

2. 42 no

3. 2 cannot tell

47 Missing

22. If you answered YES to question 21 (options 0 and 1): does each search intermediary equally use online systems on which he/she has been trained?

0. 139 yes

1. 107 no

2. 23 cannot tell

20 Missing

If your answered NO to question 21: on what bases does each search intermediary specialize? (please check all appropriate boxes)

0. 23 he / she learns one system and conducts all online searches on that system

1. 28 he / she learns one or a few data base(s) and conducts any search on that (these) data base(s) on whatever system

2. 51 he / she specializes in a discipline (subject area) and learns whatever system(s) and data base(s) are necessary to adequately cover that discipline

3. 32 other (please specify): ______________________

____

____

____

____

23. Which of the following activities do most of your search intermediaries regularly perform? (Please check all appropriate boxes)

23.1 SEARCHING ACTIVITIES

23.11 PRE-SEARCH ACTIVITIES

	ROLE OF INTERMEDIARIES				
	Decide (do alone)	Assist user (suggest) OVERALL RANK	Explain only	Do not do or participate	ACTIVITIES
A		12			Selection of online searching as one way to obtain needed information
B		13			Selection of additional approaches (besides online searching) to obtain needed information
C		8			Selection of mode of searching: direct, delegated or combined
D		5			Selection of appropriate data base(s)
E		3			Selection of online system(s)
F		11			Question formulation and elaboration
G		9			Search strategy formulation: selection of concepts
H		6			Search strategy formulation: selection of search terms
I		7			Search strategy formulation: expansion of search vocabulary (synonyms, related terms)
J		4			Search strategy formulation: selection of additional access points (e.g. subject codes, authors)
K		2			Search strategy formulation: selection of search logic (logical relationship between terms)
L		10			Search strategy formulation: restrictions and other limiting devices of the search (e.g. language, date)
M		1			Use of printed aids: user manuals, thesauri, dictionaries

23.1.2 SEARCH ACTIVITIES

	ROLE OF INTERMEDIARIES				
	Decide (do alone)	Assist user (suggest)	Explain only	Do not do or participate	ACTIVITIES
	OVERALL	RANK			
A		5			Communications procedures
B		1			Search protocols: log on - log off procedures
C		2			Keyboarding (operating the terminal)
D		7			Consulting online dictionaries/thesauri
E		10			Consulting printed dictionaries (thesauri)
F		4			Consulting user manuals (for system or data base information)
G		3			Search commands selection and use
H		6			Truncation
I		11			Review search history
J		12			Output formats and contents
K		9			On-line and off-line printing
L		13			Modifying search strategy
M		8			Use of special system features: save search, SDI, stringsearch, full text searching, and so on.

23.1.3 POST-SEARCH ACTIVITIES

	ROLE OF INTERMEDIARIES				
	Decide (do alone)	Assist user (suggest)	Explain only	Do not do or participate	ACTIVITIES
	OVERALL RANK				
A		1			Reception of off-line prints
B		4			Notes, comments or evaluation of search output
C		2			Identification and location of relevant retrieved documents
D		3			Provision of (getting) relevant retrieved documents
E		5			Online ordering of relevant retrieval documents
F		6			Examining documents and extracting pertinent information from them

23.2 **TUTORIAL ACTIVITIES**

Are most of your search intermediaries involved in any of the following tutorial activities?

		YES	NO
	Search related		
A	General description of online searching	249	81
B	System description: how each system operates	157	173
C	Data base description: subject and document coverage	243	87
D	Manual search description: how to use corresponding printed indexes and abstracts	215	115
E	Data base indexing policy and vocabulary coverage	128	202
F	System cost structure	135	195
G	Local (service center/library) cost structure and policy	153	177
	Missing	50	
		1280	1030
	General		
H	Give workshop, lectures, demonstrations for end users	162	167
I	Help develop marketing and promotion programs and tools	120	209
	Missing	51	
		1562	1406

24. In your opinion, would most of your end-users be willing to conduct their own online searches regularly, were they permitted and properly trained?

0. 72 yes
1. 150 no
2. 121 cannot tell

37 Missing

25. In your opinion, if your end-users were permitted, trained and willing to conduct their own searches on a regular basis, how would their results compare with the same searches conducted by an intermediary?

End-users' results would be:

0. 25 better
1. 85 approximately the same
2. 112 poorer
3. 120 cannot tell

38 Missing

Thank you very much for your collaboration!

APPENDIX II: TABLES

TABLE 1: RESPONSE RATE

QUESTION 8: To which of the following on-line search systems are you linked? (please check all appropriate boxes)

0.	210	CAN/OLE
1.	166	QL SYSTEMS
2.	290	ORBIT (SDC INFOMART)
3.	206	DIALOG (LOCKHEED)
4.	75	MEDLINE (NLM)
5.	48	CANSIM (STATISTICS CANADA)
6.	44	SABINE (INFORMATECH FRANCE-QUEBEC)
7.	50	NEW YORK TIMES INFORMATION BANK
8.	18	BIBLIOGRAPHIC RETRIEVAL SERVICES (BRS)
9.	78	OTHER (Please specify)

TOTAL: 845 Estimated duplication figure

$$\frac{380 \text{ Centers}}{845 \text{ clients}} = .45 \text{ centers/clients}$$

ESTIMATED RESPONSE RATE: $$\frac{380 \text{ Returned questionnaires}}{765 \text{ (or } .45 \times 1700)} = 49.7\%$$

TABLE 2:

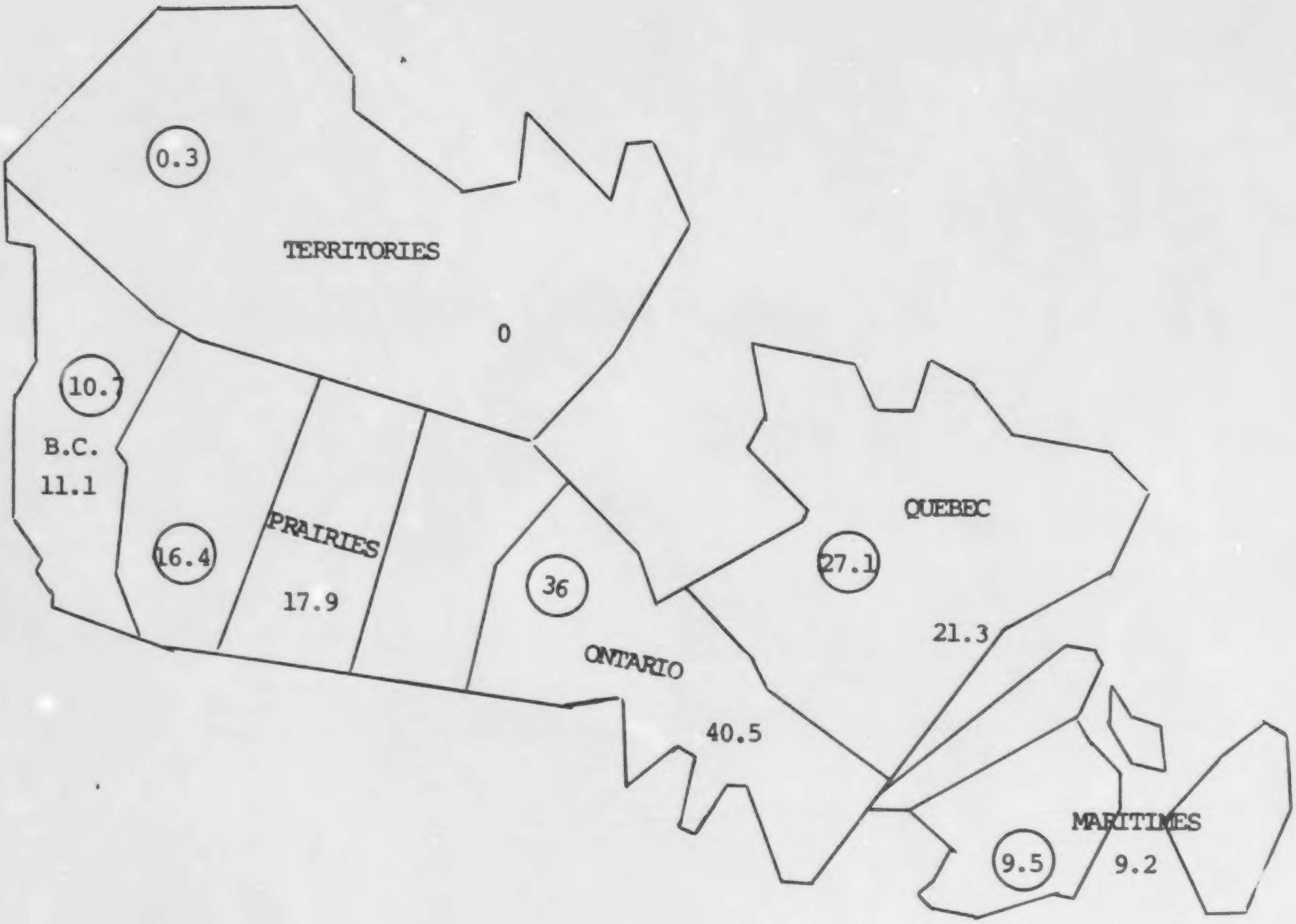
LINGUISTIC DISTRIBUTION OF RESPONDENTS

	% OF RESPONDENTS	% OF TOTAL CANADIAN POPULATION*
ENGLISH	85.8	67.1
FRENCH	14.2	18.0
BILINGUAL	———	13.4

* BASED ON 1976 CANADIAN CENSUS

TABLE 3:

GEOGRAPHIC DISTRIBUTION OF SEARCH SERVICE CENTERS


0.3
TERRITORIES
0
10.7
B.C.
11.1
16.4
PRAIRIES
17.9
36
ONTARIO
40.5
27.1
QUEBEC
21.3
9.5
MARITIMES
9.2

ⓝ = % of total canadian population

n = % of on-line service centers

TABLE 4: GEOGRAPHIC DISTRIBUTION OF SEARCH SERVICE CENTERS BY TYPE OF ORGANIZATION

GEOGRAPHICAL REGION	TYPE OF ORGANIZATION														TOTAL	
	GOVERNMENTAL		INDUSTRIAL		COMMERCIAL		UNIVERSITY		EDUCATIONAL		PUBLIC LIBRARY		OTHER			
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
ATLANTIC	11	10.2	2	2.7	2	9.1	17	18.3	0	0	0	0	3	8.6	35	9.2
QUEBEC	15	13.9	15	20.0	2	9.1	32	34.4	1	3.8	1	14.3	15	31.3	81	21.4
ONTARIO	50	46.3	38	50.7	12	54.7	22	23.7	11	42.3	4	57.1	16	33.3	153	40.4
PRAIRIES	22	20.4	12	16.0	5	22.7	15	16.1	3	11.5	2	28.6	9	18.8	68	17.9
BRITISH COLUMBIA	10	9.3	8	10.7	1	4.5	7	7.5	11	42.3	0	0	5	10.4	42	11.1
TOTAL	108	28.5	75	19.8	22	5.8	93	24.5	26	6.9	7	1.8	48	12.7	379	100

F = frequency
N = 379

TABLE 5:

POTENTIAL POPULATION OF SEARCH SERVICE CENTERS

POPULATION	FREQUENCY	PCT	ESTIMATED POTENTIAL POPULATION
Less than 100	104	27.4	5,200
101-500	98	25.8	29,400
501-1000	43	11.3	32,250
1001-5000	57	15.0	171,000
5001-10000	27	7.1	202,500
10001-20000	13	3.4	195,000
20001 and more	36	9.5	720,000
TOTAL:	380	100	1,355,350

POTENTIAL END-USER POPULATION: 1,355,350 = 6% of total canadian population

USE FACTOR (1978-79)

$$\frac{152{,}280 \text{ ONLINE SEARCHES CONDUCTED}}{1{,}355{,}350 \text{ POTENTIAL POPULATION}} = 11.2\%$$

TABLE 6:

PARENT ORGANIZATIONS

TYPE OF ORGANIZATION	DESCHATELETS		WANGER *	
	FREQUENCY	%	FREQUENCY	%
GOVERNMENTAL	108	28.4	101	21.4
COMMERCIAL & INDUSTRIAL	97	25.5	152	32.2
UNIVERSITY	93	24.5	137	29.0
EDUCATIONAL	26	6.8	8	1.7
PUBLIC LIBRARY	7	1.8	0	0
OTHER	4	12.9	74	15.7
TOTAL	380	100	472	100

* MANAGERS' QUESTIONNAIRES ONLY

TABLE 7 : TYPE OF PARENT ORGANIZATION BY LANGUAGE

	PARENT ORGANIZATION							
LANGUAGE	GOVERNMENTAL	INDUSTRIAL	COMMERCIAL	UNIVERSITY	EDUCATIONAL	PUBLIC LIBRARY	OTHER	TOTAL
ENGLISH	93 (28.6%)	69 (21.2%)	22 (6.8%)	70 (21.5%)	24 (7.4%)	7 (2.2%)	40 (12.3%)	325 (85.8%)
FRENCH	15 (27.8%)	6 (11.1%)	0 (0%)	23 (42.6%)	2 (3.7%)	0 (0%)	8 (14.8%)	54 (14.2%)
TOTAL	108 (28.5%)	75 (19.8%)	22 (5.8%)	93 (24.5%)	26 (6.9%)	7 (1.8%)	48 (12.7%)	379 (100%)

N = 379 CHI SQUARE = 16,73561 6 DEGREES OF FREEDOM

SIGNIFICANT = 0,0103

TABLE 8:

UNIT PROVIDING ONLINE SEARCH SERVICE

UNIT	DESCHATELETS		WANGER *	
	FREQUENCY	%	FREQUENCY	%
LIBRARY OR INFORMATION CENTER	302	79.5	377	79.8
COMPUTER CENTER	15	3.9	8	1.7
LABORATORY OR RESEARCH UNIT	16	4.2	53	11.2
AUTONOMOUS UNIT	17	4.5	-	-
OTHER	30	7.9	34	7.2
TOTAL	380	100	472	100

* MANAGERS' QUESTIONNAIRES ONLY

TABLE 9:

EXPERIENCE LEVELS

TYPE OF ORGANIZATION		EXPERIENCE							
		<1	1	2	3	4	5	>5	TOTAL AVERAGE (YEARS)
GOVERNMENTAL		17	19	18	19	16	9	8	2.62
INDUSTRIAL		8	7	21	16	9	11	2	2.76
COMMERCIAL		4	7	3	5	1	0	1	1.90
UNIVERSITY		10	12	20	15	15	8	13	3.01
EDUCATIONAL		7	2	7	9	0	1	0	1.86
PUBLIC LIBRARY		0	5	2	0	0	0	0	1.28
OTHER		12	9	12	7	2	3	3	2.10
TOTAL	N	58	61	83	71	43	32	27	2.57
	%	15.5	16.3	22.1	18.9	11.5	8.5	7.2	
WANGER	N	499	301			55			
	%	58.3	35.2			6.4			

TABLE 10:

NUMBER OF SEARCHES
CONDUCTED (1978-79)

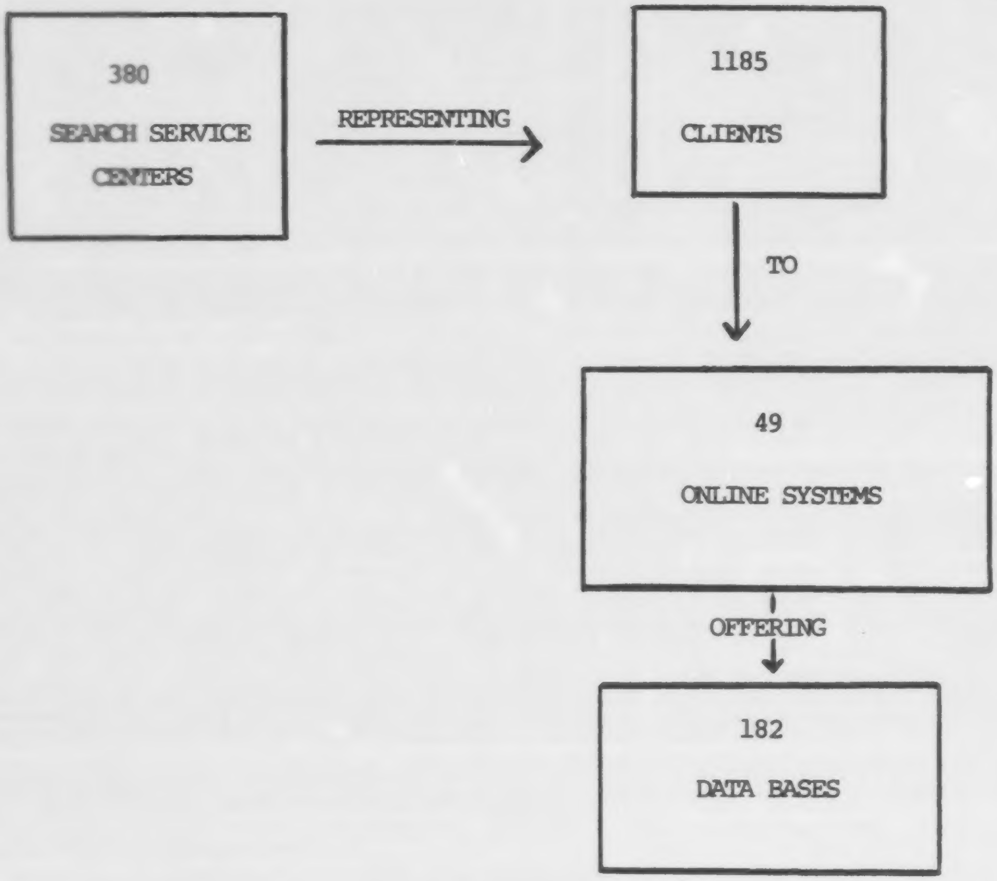
TYPE OF ORGANIZATION	NUMBER OF SEARCHES CONDUCTED (MONTH)						TOTAL (f x MID POINT)		AVERAGE NUMBER OF SEARCHES	
	0-10	11-25	26-50	51-100	101-200	201 +	MONTH	YEAR	MONTH	YEAR
GOVERNMENTAL	44	30	12	10	2	7	4016	48192	38.25	459.0
INDUSTRIAL	31	21	14	3	4	1	2140	25680	28.92	347.0
COMMERCIAL	11	6	4	1	0	0	390	4680	17.73	212.7
UNIVERSITY	26	15	24	14	7	7	5162	61944	55.5	666.1
EDUCATIONAL	16	6	0	3	1	0	563	6756	21.65	259.8
PUBLIC LIBRARY	2	3	2	0	0	0	140	1680	20.0	240.0
OTHER	24	15	3	5	1	0	1029	12348	21.44	257.2
TOTAL	154	96	59	36	15	15	13440	161280	35.844	430.1
	41.1%	25.6%	15.7%	9.6%	4.0%	4.0%				

TABLE 11: CATEGORIES OF ELIGIBLE USERS

CATEGORIES		CATEGORIES	PERCENTAGE
	ANY END-USER	127	33.4
	INTERNAL END-USERS ONLY	219	57.6
OTHER	AUTHORIZED PERSONS ONLY	23	6.0
	ORGANIZATION'S CLIENTS ONLY	6	1.6
TOTAL		375	98.6

TABLE 12:

CANADIAN ONLINE SEARCH SERVICE MARKET*: OVERVIEW


380
SEARCH SERVICE CENTERS
REPRESENTING
1185
CLIENTS
TO
49
ONLINE SYSTEMS
OFFERING
182
DATA BASES

* AS OF SPRING 1979

TABLE 13: CANADIAN ONLINE SEARCH SERVICE MARKET: ONLINE SYSTEMS

	CAN/OLE	QL	ORBIT	DIALOG	MEDLINE	CANSIM	SABINE	NYTIMES	BRS	OTHERS	TOTAL	AVERAGE NUMBER OF SYSTEMS
GOVERNMENTAL	65 (30.6)	35 (25.9)	71 (24.6)	52 (25.2)	10 (13.5)	8 (17.4)	11 (25.0)	13 (26.0)	1 (5.6)	9 (32.1)	283	2.6
INDUSTRIAL	37 (17.7)	25 (15.1)	68 (23.5)	39 (18.9)	9 (12.2)	10 (21.7)	7 (15.9)	9 (18.0)	1 (5.6)	13 (16.7)	218	2.9
COMMERCIAL	7 (3.3)	10 (6.0)	20 (6.9)	8 (3.9)	-	1 (2.2)	1 (2.3)	3 (6.0)	- 10.3	8 (10.2)	58	2.6
UNIVERSITY	62 (29.7)	54 (32.5)	71 (24.6)	74 (35.9)	38 (51.4)	14 (30.4)	17 (38.6)	14 (28.0)	16 (88.9)	17 (21.8)	377	4.1
EDUCATIONAL	9 (4.3)	13 (7.8)	19 (6.6)	10 (4.9)	7 (9.5)	6 (13.0)	1 (2.3)	1 (2.0)	-	4 (5.1)	70	2.7
PUBLIC LIBRARY	5 (2.4)	7 (4.2)	6 (2.1)	6 (2.9)	-	1 (2.2)	-	5 (10.0)	-	3 (3.8)	33	4.7
OTHER	25 (12.0)	14 (8.4)	35 (11.8)	17 (8.3)	11 (13.5)	8 (13.0)	7 (15.9)	5 (10.0)	-	8 (10.3)	131	2.7
TOTAL	210	166	290	206	75	48	44	50	18	78	1185	3.1
PROPORTION OF TOTAL MARKET	17.7	14.0	24.5	17.4	6.3	4.0	3.7	4.2	1.5	6.7		
RANK	2	4	1	3	5	7	8	6	9			

Note: Figures in parentheses correspond to percentages.

"OTHERS" INCLUDES:

INFOGLOBE:	18	(1.5%)
BADADUQ:	14	(1.2%)
SPIRES (BALLOTS):	9	(0.8%)
BATTELLE:	9	(0.8%)
RESORS:	6	(0.5%)
DOW JONES NEWS RETRIEVAL	4	(0.3%)

TABLE 14: LIST OF SYSTEMS AND COMBINATIONS OF SYSTEMS USED

SYSTEMS AND COMBINATIONS OF SYSTEMS	FREQUENCY ǂ	%
CAN/OLE only	21	5.6
QL only	22	5.8
ORBIT only	48	12.6
DIALOG only*	0*	0*
MEDLINE only	10	2.6
CANSIM only	0*	0*
SABINE only	1	0.3
NYTIMES only	0	0
BRS only	0	0
OTHERS only*	0*	0*
CAN/OLE & QL	3	0.8
CAN/OLE & ORBIT	11	2.9
CAN/OLE & DIALOG	8	2.1
CAN/OLE & MEDLINE	1	0.3
CAN/OLE & SABINE	1	0.3
CAN/OLE & OTHER	4	1.1
CAN/OLE & ORBIT & QL	4	1.1
DIALOG & QL	2	0.5
CAN/OLE & DIALOG & QL	3	0.8
ORBIT & DIALOG	11	2.9

---

*: non-participing system

ǂ: these figures represent the number of search service centers which are linked to corresponding online systems. They are not use statistics of the systems.

ORBIT & DIALOG & CAN/OLE	25	6.6
ORBIT & DIALOG & QL	9	2.4
ORBIT & DIALOG & QL & CAN/OLE	23	6.1
ORBIT & MEDLINE	3	0.8
ORBIT & MEDLINE & CAN/OLE	2	0.5
MEDLINE & DIALOG	4	1.1
MEDLINE & DIALOG & ORBIT	1	0.3
MEDLINE & DIALOG & ORBIT & CAN/OLE	8	2.1
MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	7	1.8
CANSIM & ORBIT	1	0.3
CANSIM & ORBIT & CAN/OLE	3	0.8
CANSIM & ORBIT & QL	1	0.3
CANSIM & DIALOG & ORBIT	1	0.3
CANSIM & DIALOG & ORBIT & CAN/OLE	1	0.3
CANSIM & DIALOG & ORBIT & QL	1	0.3
CANSIM & DIALOG & ORBIT & QL & CAN/OLE	3	0.8
CANSIM & MEDLINE & DIALOG & ORBIT & CAN/OLE	1	0.3
CANSIM & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	6	1.6
SABINE & ORBIT	2	0.5
SABINE & ORBIT & QL & CAN/OLE	2	0.5
SABINE & DIALOG & QL & CAN/OLE	1	0.3
SABINE & DIALOG & ORBIT	4	1.1
SABINE & DIALOG & ORBIT & CAN/OLE	5	1.3
SABINE & CANSIM & ORBIT & QL & CAN/OLE	1	0.3

SABINE & CANSIM & DIALOG & ORBIT	1	0.3
SABINE & CANSIM & MEDLINE & DIALOG & ORBIT	2	0.5
SABINE & CANSIM & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	2	0.5
NYTIMES & ORBIT	5	0.3
NYTIMES & ORBIT & QL	2	0.5
NYTIMES & ORBIT & DIALOG & QL	1	0.3
NYTIMES & DIALOG & ORBIT & QL & CAN/OLE	5	1.3
NYTIMES & MEDLINE & DIALOG & ORBIT & QL / CAN/OLE	1	0.3
NYTIMES & CANSIM & ORBIT	1	0.3
NYTIMES & CANSIM & DIALOG & ORBIT & CAN/OLE	1	0.3
NYTIMES & CANSIM & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	3	0.8
NYTIMES & SABINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
NYTIMES & SABINE & CANSIM & DIALOG & ORBIT & QL	1	0.3
NYTIMES & SABINE & CANSIM & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
BRS & DIALOG & ORBIT & QL & CAN/OLE	4	1.1
BRS & MEDLINE	1	0.3
BRS & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
BRS & SABINE & DIALOG & ORBIT & CAN/OLE	1	0.3
BRS & NYTIMES & DIALOG & ORBIT & QL	1	0.3
BRS & NYTIMES & DIALOG & ORBIT & QL & CAN/OLE	1	0.3

BRS & NYTIMES & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
OTHER & QL	3	0.8
OTHER & ORBIT	4	1.1
OTHER & ORBIT & CAN/OLE	3	0.8
OTHER & ORBIT & QL	2	0.5
OTHER & ORBIT & QL & CAN/OLE	1	0.3
OTHER & DIALOG & QL & CAN/OLE	1	0.3
OTHER & DIALOG & ORBIT	4	1.1
OTHER & DIALOG & ORBIT & CAN/OLE	3	0.8
OTHER & DIALOG & ORBIT & QL	2	0.5
OTHER & DIALOG & ORBIT & QL & CAN/OLE	6	1.6
OTHER & MEDLINE & CAN/OLE	1	0.3
OTHER & MEDLINE & DIALOG & ORBIT & CAN/OLE	1	0.3
OTHER & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
OTHER & CANSIM & QL	1	0.3
OTHER & CANSIM & ORBIT	1	0.3
OTHER & CANSIM & ORBIT & QL	1	0.3
OTHER & CANSIM & DIALOG & ORBIT & QL & CAN/OLE	2	0.5
OTHER & CANSIM & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
OTHER & SABINE & ORBIT & CAN/OLE	1	0.3
OTHER & SABINE & DIALOG	1	0.3
OTHER & SABINE & DIALOG & ORBIT	1	0.3

OTHER & SABINE & DIALOG & ORBIT & QL	1	0.3
OTHER & SABINE & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	5	1.3
OTHER & SABINE & CANSIM & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
OTHER & NYTIMES & QL	1	0.3
OTHER & NYTIMES & ORBIT	1	0.3
OTHER & NYTIMES & ORBIT & QL	4	1.1
OTHER & NYTIMES & DIALOG & ORBIT & QL & CAN/OLE	2	0.5
OTHER & NYTIMES & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	2	0.5
OTHER & NYTIMES & CANSIM & ORBIT	1	0.3
OTHER & NYTIMES & CANSIM & DIALOG & ORBIT & QL & CAN/OLE	2	0.5
OTHER & NYTIMES & SABINE & DIALOG & ORBIT & QL & CAN/OLE	2	0.5
OTHER & SABINE & NYTIMES & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
OTHER & NYTIMES & SABINE & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	3	0.8
OTHER & BRS & SABINE & MEDLINE & DIALOG & ORBIT & CAN/OLE	1	0.3
OTHER & BRS & NYTIMES & DIALOG & ORBIT	1	0.3
OTHER & BRS & NYTIMES & DIALOG & ORBIT & QL	1	0.3

OTHER & BRS & NYTIMES & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
OTHER & BRS & NYTIMES & CANSIM & MEDLINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
OTHER & BRS & NYTIMES & SABINE & DIALOG & ORBIT & QL & CAN/OLE	1	0.3
TOTAL	380	100%

TABLE 15: SYSTEMS LISTED IN THE "OTHER" CATEGORY

INFOGLOBE (GLOBE & MAIL):	18 clients	(1.5%)
BILLS DES DEPUTES DE LA CHAMBRE DES COMMUNES (IMPRIMERIE NATIONALE ET CHAMBRE DES COMMUNES):	1 client	
DERWENT:	2 clients	
BADADUQ (UNIVERSITE DU QUEBEC):	14 clients	(1.2%)
ARIANE (CENTRE D'ASSISTANCE TECHNIQUE ET DE DOCUMENTATION, PARIS, FRANCE):	1 client	
LIANTS HYDRAULIQUES (CENTRE D'ETUDES ET DE RECHERCHES DE L'INDUSTRIE DES LIANTS HYDRAULIQUES):	1 client	
RESORS (CENTRE CANADIEN DE TELEDETECTION/ CANADIAN CENTER FOR REMOTE SENSING):	6 clients	
DOW JONES NEWS RETRIEVAL SYSTEM:	4 clients	
BUSINESS INTERNATIONAL (GENERAL ELECTRICS):	1 client	
*COMBASE (COMMUNICATIONS DATA BASE):	1 centre	
*CDS (SPORTS AND RECREATION DATA BASE)	1 centre	
SPIRES (BALLOT) (UNIVERSITY OF ALBERTA):	9 clients	(0.8%)
ISIS (ONTERIS DATA BASE):	2 clients	
BATTELLE'S SYSTEMS: T.O.L. (TRANSPORTATION ON LINE) AND BASIS	9 clients	(0.8%)
I.P. SHARPE (non-bibliographic)	4 clients	
OHMTADS:	1 client	
HAZMATS (Federal Government)	2 clients	
IN-HOUSE SYSTEMS (no name)	2 centres	

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* Data base for internal use only.

ASTIS (ALBERTA RESEARCH COUNCIL DATA BASE):	2 clients
DEWART (U.K.):	1 client
*GOTHIC:	1 centre
O.C.L.C.:	1 client
CHEMICAL INFORMATION SYSTEM:	1 client
UNIVERSITY OF OKLAHOMA PETROLEUM DATA SYSTEM:	1 client
GEOSCAN (formerly CANADIEN INDEX TO GEOSCIENCE DATA) via system 200 PROGRAM ON THE ENERGY, MINES & RESOURCES COMPUTER, OTTAWA	2 clients
UTLAS:	8 clients
*ONTARIO MINISTRY OF GOVERNMENT SERVICES:	1 centre
*MINISIS (IN-HOUSE SYSTEM WITH IDRC AND U.N.O. FILES)	1 centre
NEELS (NATIONAL EMERGENCY EQUIPMENT LOCATOR SYSTEM):	1 client
ALPHATEXT:	1 client
ALBERTA STATUTES CITATOR:	1 client
CANFARM (cooperative Agency):	1 client
COIN (Univ. of Virginia)	1 client
INFORMATICS, INC.:	1 client
C.D.A. (COPPER DEVELOPMENT ASSOCIATION):	1 client
COMPUSEARCH:	1 client
MCGILL LABOUR AGREEMENT DATA BASE:	1 client

Overall, there are 107 clients to these 37 online systems.

TABLE 16: ONLINE SYSTEMS USAGE

SYSTEM	RANK FREQUENCIES				TOTAL SCORE	%	RANK
	1	2	3	4			
CAN/OLE	72	58	56	15	589	22.9	3
QL SYSTEMS	37	23	48	47	360	14.1	4
ORBIT	139	86	50	7	921	35.9	1
DIALOG	118	65	13	3	696	27.1	2
TOTAL	366	232	167	72	2566		

TABLE 17: CANADIAN ONLINE SEARCH SERVICE MARKET: DATA BASES

DATA BASE	FREQUENCY	%	SCORE	RANK
COMPENDEX	127	8.4	464	1
CHEMCON *	114	7.4	426	2
NTIS	117	8.2	362	3
INFORM	97	6.6	298	4
ERIC	76	5.0	292	5
BIOSIS*	79	5.4	264	6
PSYCH. ABST.	57	3.8	201	7
MEDLINE*	44	2.8	201	7
INSPEC	55	3.8	165	9
MANAGEMENT	46	3.2	134	10
TOTAL	812	54.6	2807 (59.9)	

* INCLUDES BACKFILES

TABLE 18: LIST OF MOST-USED DATA BASES

Figures listed under each rank refer to the number of search service centers having given this rank to this particular data base.

CONVERSION OF RANKS INTO SCORES

Rank 1 =	score 5	Rank 4 =	score 2
Rank 2 =	score 4	Rank 5 =	score 1
Rank 3 =	score 3		

DATA BASE	RANK					Total frequency	TOTAL		BY GEOGRAPHICAL REGION (FREQUENCIES)				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
ACCOUNTANTS INDEX	3			4		7	23	38	0	1	4	1	1
A.C.F. (Arrêts Cour Fédérale)						-	-						
A.C.S. (Arrêts Cour Suprême)					1	1	1	116	0	0	1	0	0
A.C.W.S. (All Canada Weekly summaries)	2	4	2	2	2	12	38	26	1	0	8	2	1
AGRICOLA	2	9	8	3	7	29	83	14	1	9	4	11	4
AGRIDOQ			1			1	3	97	0	1	0	0	0
AIM/ARM						-	-						
AMERICA: HISTORY & LIFE						-	-						
AOSI (Alberta Oil Sands Index)	1					1	5	79	0	0	0	1	0
APILIT	2	3	3	1	3	12	36	28	0	0	4	8	0
APIPAT		1	1	1		3	9	53	0	0	2	1	0

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
APTIC	1				1	2	6	71	0	0	2	0	0
ART MODERNE				1		1	2	107	0	1	0	0	0
ASFA			2		1	3	7	67	0	1	1	1	0
ASI		1				1	4	88	0	1	0	0	0
BHRA FLUID ENGIN.						-	-						
BIOCODES			1			1	3	97	0	0	1	0	0
BIOSIS, BA, BIO6973	17	22	20	11	9	79	264	6	16	18	21	13	11
BNT		1				1	4	88	0	0	0	1	0
CAC, CAS, CHEMCON, CHEM7071	41	31	18	19	5	114	426	2	17	22	46	19	10
CA PATENT CONCORDANCE						-	-						
CAB ABSTRACTS	4	1	2	4	2	13	40	25	0	3	2	6	2
CAMBRIDGE						-	-						
CANSIM	1	1	1		1	4	13	45	0	0	1	1	2
CBPI	3	6	9	6	6	30	84	13	1	4	20	3	2

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
CCC (CANADIAN CRIMINAL CASES)	1	2	3	1	1	8	25	36	1	0	3	2	2
CDI/CDA		1	4	4	5	14	29	31	2	5	6	0	1
CHEMDEX/CHEMNAME			2	1		3	8	62	1	0	1	0	0
CHILD ABUSE & NEGLECT					1	1	1	116	0	0	1	0	0
CIN	2	1	3		1	7	27	33	0	3	4	0	0
CIS (INDEX)			1	1	1	3	6	71	0	1	1	1	0
CLAIMS				2	1	3	5	79	0	1	2	0	0
CLAIMS/CLASS						-	-						
CLAIMS/U.S. PATENTS						-	-						
C.N.I.	1	4	4	3	2	14	41	23	0	0	14	0	0
CODOC						-	-						
COLD REGIONS						-	-						
COMPENDEX (EI)	45	29	28	14	11	127	464	1	14	23	55	25	10
CONFERENCE PAPERS INDEX				2	2	4	6	71	0	0	4	0	0

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
CRECORD			1			1	3	97	0	0	1	0	0
CRIS						-	-						
CWA	4	4	2	3	1	14	49	20	1	1	6	4	2
DEL						-	-						
DLO						-	-						
DLR (DOMINION LAW REPORTS)	6	2	4	1		13	52	19	1	0	7	2	3
DREF (DATA REFERENCE SYSTEM)		1			1	2	5	79	0	0	1	1	0
DISCLOSURE						-	-						
ECONOMICS ABST. INTNL.						-	-						
EIS INDUSTRIAL PLANTS						-	-						
EIS NONMANUFACTURING ESTABLISHMENTS						-	-						
ENERGYLINE	1	1	1	2	3	8	21	40	3	0	4	1	0
ENVIRONLINE		4	3	4	5	16	45	19	1	3	8	3	1
EPB							-						

	RANK					Total frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
ERIC	39	12	7	10	8	76	292	5	5	22	26	14	9
EXC. CHILD. EDUC. RESOURCES			3			3	9	53	0	1	2	0	0
EXCERPTA MEDICA				1		1	2	107	0	0	0	1	0
FCR			2	1	1	4	9	53	1	0	2	1	0
FED REGISTER				1		1	2	107	0	0	1	0	0
FOODS ADLIBRA						-	-						
FOUNDATIONS DIRECTORY						-	-						
FOUNDATION GRANTS INDEX						-	-						
FRANCIS						-	-						
FROST & SULLIVAN DM^2						-	-						
FSTA	2	5	3	5	4	19	53	18	2	4	9	4	0
GEOARCHIVE		1	1			2	7	67	1	0	1	0	0
GEOREF	7	5	7	8	5	32	97	12	2	5	8	16	1
G.P.O. MONTHLY						-	-						

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
GRANTS						-	-						
HISTORICAL ABSTRACTS						-	-						
HCQ	1	1		3		5	15	44	0	0	5	0	0
HQE						-	-						
HQO						-	-						
HWQ			1		1	2	4	88	0	0	2	0	0
IEC			1		1	2	4	88	0	1	1	0	0
INFORM (ABI)	22	19	18	20	18	97	298	4	4	21	43	19	10
INSPEC	11	12	10	10	12	55	165	9	8	14	23	9	1
I.P.A.							-						
ISMEC		1		2	1	4	9	53	1	0	1	1	1
LABORDOC	1		1	1	1	4	11	49	0	0	3	0	1
LIBCON		2	5	2	4	13	31	29	0	2	7	3	1
LISA				4		4	8	52	0	0	2	0	2

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
LLBA		1		1		2	6	71	0	1	0	1	0
MAGAZINE INDEX			2			2	6	71	0	0	2	0	0
MANAGEMENT (CONTENTS)	3	16	10	8	9	46	134	10	2	8	24	8	4
MEDLINE (+BACKFILES)	34	5	3		2	44	201	7	3	16	13	5	7
METADEX	1	2	2	3	2	10	27	33					
MGA						-	-						
MLA BIBLIOGRAPHY						-	-						
MRIS ABSTRACTS						-	-						
NATIONAL FOUNDATIONS	1					1	5	79	0	0	1	0	0
NDEX						-	-						
NEW YORK TIMES	1		1	2		4	12	46	0	1	3	0	0
NEWS			1		1	2	4	88	0	0	1	1	0
NICEM			1			1	3	97	0	0	0	1	0
NICSEM/NIMIS						-	-						

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
NOU	1					–	–						
NTIS	21	30	25	21	20	117	362	3	14	26	38	26	13
OCEANIC (ABSTRACTS)		4	2		2	8	24	37	4	1	1	1	1
ONTAP CASEARCH						–	–						
ONTAP CHEMNAME				1		1	2	107	0	0	1	0	0
ONTAP ERIC						–	–						
O.O.N.		1		1	2	4	8	62	1	0	3	0	0
O.O.N.L.	1				1	2	6	71	1	0	0	1	0
O.O.T. (CTDS)		1		1		2	6	71	0	0	2	0	0
PAIS INTERNATIONAL			1	2	4	7	11	49	0	5	2	0	0
PAPERCHEM	4	1				5	23	38	0	1	1	0	3
P/E NEWS						–	–						
PIRA			1			1	3	97	0	1	0	0	0
P.N.I.						–	–						

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
POLLUTION ABSTRACTS (PAB)	5	2	5	3	6	21	60	17	3	2	10	3	3
POPULATION (BIBLIOGRAPHY)						-	-						
PSYCHOLOGICAL ABSTRACTS	11	22	12	10	2	57	201	7	4	17	20	11	5
PROMPT (PTS)	3	2	4	6		15	47	21	0	5	6	0	4
PTS. F & S INDEX		1		1	1	3	7	67	0	0	2	1	0
PTS. FEDERAL INDEX (+ WEEKLY)						-	-						
PTS. INTERNAT. ANNUAL TIME SERIES						-	-						
PTS. INTERNAT. STATISTICAL ABSTRACTS						-	-						
PTS. U.S. ANNUAL TIME SERIES						-	-						
PTS. U.S. REGIONAL TIME SERIES						-	-						
PTS. U.S. STATISTICAL ABSTRACTS						-	-						
PTS. WEEKLY						-	-						
QUEBEC ACTUALITES		1				1	4	88	0	1	0	0	0
RADAR	1	1	1			3	12	46	0	3	0	0	0

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
RAPRA ABSTRACTS						-	-						
REG						-	-						
RESORS						-	-						
RINGDOC	1	1				2	9	53	0	2	0	0	0
RSC (Revised Statutes of Canada)	1	6	2	3		12	41	23	1	0	5	2	4
SAE ABSTRACTS		1	1	1		3	9	53	0	1	1	0	1
SAFETY					2	2	2	107	0	0	1	1	0
SBC (STATUTES OF BRITISH COLUMBIA)	3				1	4	16	42	0	0	0	0	4
SCISEARCH		1	6	5	6	18	38	26	4	4	4	4	2
SCR (SUPREME COURT REPORTS)	3	2	3	2	3	13	64	16	2	0	7	2	2
SNB (STATUTES OF NEW BRUNSWICK)				1		1	2	107	1	0	0	0	0
SOCIAL SCISEARCH (SSCI)	5	7	10	6	7	35	102	11	1	12	15	7	0
SOCIOLOGICAL ABSTRACTS		1	1	5	2	9	19	41	1	4	3	1	0
SOL					1	1	1	116	0	0	1	0	0

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
SPIN						-	-						
SPK						-	-						
SRC				1		1	2	107	0	0	1	0	0
SSIE				2	6	8	10	51	1	1	2	3	1
STO						-	-						
SWR	2	1	2	2	2	9	26	35	0	1	6	2	0
TITUS/TEXTILEDOC						-	-						
TULSA	11	4	2	2	1	20	82	15	1	0	3	15	1
UNION	1	1			1	3	10	51	0	1	2	0	0
URBADOC		1				1	4	88	0	1	0	0	0
USPSD						-	-						
WAA	1	1				2	9	53	0	1	1	0	0
WCB (Weekly Criminal Bulletin)		1		2	1	4	9	53	1	0	3	0	0
WELDASEARCH						-	-						

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overal score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
WORLD TEXTILES						-	-						
WPI		1	2	6	1	10	23	38	0	4	6	0	0
YKB						-	-						
PASCAL						-	-						
BADADUQ	2			1		3	12	46	0	3	0	0	0
CHEMICAL ENGINEERING			1			1	3	97	0	1	0	0	0
TOXLINE	2	3	2	1	1	9	31	29	2	2	4	0	1
A/V LINE		1	1	1		3	9	53	1	0	1	0	1
CHEMLINE				2	1	3	5	79	2	0	0	0	1
DOW JONES NEWS RETRIEVAL		2				2	8	62	0	1	0	0	1
GLOBE AND MAIL	3	1	1	3		8	28	32	0	1	6	0	1
BILLS DES DEPUTES	1					1	5	79	0	0	1	0	0
FRANCIS				1	1	2	3	97	0	2	0	0	0
COMBASE				1		1	2	107	0	0	1	0	0

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
PASCAL 3	1					1	5	79	0	0	1	0	0
PASCAL 7				1		1	2	107	0	1	0	0	0
PASCAL 8					1	1	1	116	0	1	0	0	0
CDS	1					1	5	79	0	0	1	0	0
SDILINE		4				4	16	42	1	0	2	0	1
CATLINE		1	1			2	7	67	0	0	1	0	1
SERLINE			1			1	3	97	0	0	0	0	1
RTECS						-	-						
CANCERLIT		1		1		2	6	71	0	0	1	0	1
CLINPROT			1			1	3	97	0	0	0	0	1
CANCERPROJ				1	1	2	3	97	0	0	1	0	1
NEELS	1					1	5	79	0	0	0	0	1
NATES		1				1	4	88	0	0	0	0	1
BALLOTS					1	1	1	116	0	0	0	0	1

	RANK					Total Frequency	TOTAL		BY GEOGRAPHICAL REGION				
	1	2	3	4	5		Overall score	Overall rank	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA
TRIS		1	1		1	3	8	62	1	0	2	0	0
ONTERIS		1				1	4	88	0	0	1	0	0
MANQUANT	35	58	86	111	158	148	3098						
TOTAL :	345	321	293	269	222	1441	4685		136	302	585	271	147

TABLE 19: BIBLIOGRAPHIC SEARCH METHODS

A: FOR COMPILING BIBLIOGRAPHIES

METHOD	RANK				RAW SCORE	% of Scores	OVERALL RANK
	1	2	3	Not used			
MANUAL SEARCH	122	129	57	72	609	40.3	2
BATCH OR OFF-LINE SEARCH	33	57	86	204	95	6.3	3
ONLINE SEARCH	203	116	13	48	806	53.4	1
TOTAL	358	302	156	324	1510	100	

B: FOR ANSWERING QUICK REFERENCE QUESTIONS

METHOD	RANK				RAW SCORE	% of Scores	OVERALL RANK
	1	2	3	Not used			
MANUAL SEARCH	292	35	11	42	915	60.4	1
BATCH OR OFF-LINE SEARCH	4	20	92	264	-120	0	3
ONLINE SEARCH	72	224	10	74	600	39.6	2
TOTAL	368	279	113	380	1515	100	

Conversion of ranks into scores

Rank 1 = score 3
Rank 2 = score 2
Rank 3 = score 1
Not used = score -1

TABLE 20: BIBLIOGRAPHIC SEARCH METHODS BY TYPE OF ORGANIZATION

TYPE OR ORGANIZATION	COMPILING BIBLIOGRAPHIES												ANSWERING QUICK REFERECNE QUESTIONS											
	MANUAL				OFF-LINE				ON-LINE				MANUAL				OFF-LINE				ON-LINE			
	Frequency	Overall score	Average score	Rank	Frequency	Overall score	Average score	Rank	Frequency	Overall score	Average score	Rank	Frequency	Overall score	Average score	Rank	Frequency	Overall score	Average score	Rank	Frequency	Overall score	Average score	Rank
GOVERNMENTAL	87	189	2.17	2	59	98	1.66	3	92	237	2.58	1	94	263	2.80	1	41	51	1.24	3	90	198	2.20	2
INDUSTRIAL	60	126	2.10	2	31	52	1.68	3	69	183	2.65	1	66	180	2.73	1	20	22	1.10	3	68	160	2.35	2
COMMERCIAL	19	48	2.53	1	7	13	1.86	3	20	48	2.40	2	20	54	2.70	1	7	13	1.86	3	18	43	2.38	2
UNIVERSITY	72	153	2.12	2	50	93	1.86	3	82	208	2.54	1	87	254	2.92	1	31	39	1.26	3	64	131	2.05	2
EDUCATIONAL	24	60	2.50	2	0	0	0	3	21	55	2.62	1	23	69	3.00	1	2	2	1.00	3	18	37	2.05	2
PUBLIC LIBRARY	3	8	2.66	1	6	8	1.33	3	4	10	2.50	2	7	21	3.00	1	0	0	0	3	7	14	2.00	2
OTHER	42	94	2.24	2	23	35	1.52	3	43	111	2.58	1	40	113	2.82	1	15	19	1.26	3	40	89	2.22	2
TOTAL	307	678	2.21	2	176	299	1.70	3	331	852	2.57	1	337	954	2.83	1	116	146	1.26	3	305	672	2.20	2

TABLE 21:

SEARCH REQUEST FORMATS

FORMAT	FREQUENCY	%
MAIL/TELEX	135	13.6
PHONE	266	26.8
IN PERSON BY END-USER HIMSELF/HERSELF	349	35.1
IN PERSON BY END-USER'S REPRESENTATIVE	222	22.3
OTHER	10	2.2
MISSING	12	1.2
TOTAL	994	100

TABLE 22:

COMBINATIONS OF SEARCH REQUEST FORMATS

COMBINATIONS OF SEARCH REQUEST FORMATS	ABSOLUTE FREQUENCY	%
By phone & by end-user himself/herself & by end-user's representative	178	46.8
By phone & by end-user himself/herself	77	20.3
By end-user himself/herself	57	15.0
By end-user himself/herself & by end-user's representative	35	9.2
By phone & by end-user himself/herself & by end-user's representative & other	5	1.3
By mail/telex	4	1.1
By phone	4	1.1
Other	3	0.8
By end-user's representative	2	0.5
By end-user himself/herself & by end-user's representative & other	1	0.3
By mail/telex & by end-user's representative	1	0.3
By mail/telex & by phone & other	1	0.3
Errors	3	0.8
Missing	9	2.4
TOTAL	380	100%

TABLE 23:

COST RECOVERY POLICIES

OPTION	DESCHATELETS									WANGER				
	OVERALL		BY TYPE OF ORGANIZATION (PERCENTAGE)							OVERALL	BY TYPE OF ORGANIZATION			
	FREQUENCY OF CHECKS	PERCENTAGE	GOVERNMENTAL	INDUSTRIAL	COMMERCIAL	UNIVERSITY	EDUCATIONAL	PUBLIC LIBRARY	OTHER		GOVERNMENTAL	COMMERCIAL & INDUSTRIAL	EDUCATIONAL (Including Academic)	OTHER
FREE BASIS	173	45.3	69.9	69.9	63.6	12.1	41.7	0	33.3	50.0	74.6	60.8	33.3	37.0
PARTIAL COST RECOVERY	129	33.9	21.4	19.2	13.6	64.8	50.0	85.7	28.9	31.8	17.5	19.5	50.4	31.4
TOTAL COST RECOVERY	57	15.0	8.7	11.0	13.6	23.1	8.3	14.3	28.9	15.9	7.9	14.1	14.4	29.6
FOR PROFIT	7	7	1.8	0	0	0	0	0	8.9	1.2	0	1.4	0.9	2.0
TOTAL	366	96.3	100	100	100	100	100	100	100	98.9	100	95.8	99.0	100

TABLE 24:

STANDARDIZED FORMS

TYPE OF ORGANIZATION	SEARCH REQUEST		SEARCH EVALUATION		SEARCH COST/STATISTICS	
	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
GOVERNMENTAL	49	45.4	14	13.0	44	40.7
INDUSTRIAL	32	42.7	9	12.0	28	37.3
COMMERCIAL	6	27.3	2	2.7	6	27.3
UNIVERSITY	70	75.3	19	20.4	76	81.7
EDUCATIONAL	11	42.3	3	11.5	13	50.0
PUBLIC LIBRARY	6	85.7	3	42.9	7	100.
OTHER	18	37.5	6	12.5	27	56.2
TOTAL	192	50.8	56	14.7	201	53.2

TABLE 25:

SEARCH PREPARATION AND SEARCH MODES: FREQUENCIES

TYPE OF ORGANIZATION		PREPARING THE SEARCH						CONDUCTING THE SEARCH					
		DELEGATED		DIRECT		COMBINED		DELEGATED		DIRECT		COMBINED	
		% OF SCORES	RANK	% OF SCORES	RANK	% OF SCORES	RANK	% OF SCORES	RANK	% OF SCORES	RANK	% OF SCORES	RANK
GOVERNMENTAL		39.0	2	15.0	3	46.0	1	50.8	1	14.7	3	34.5	2
INDUSTRIAL		48.2	1	10.1	3	41.7	2	57.8	1	11.1	3	31.1	2
COMMERCIAL		57.4	1	5.3	3	37.3	2	68.2	1	4.5	3	27.3	2
UNIVERSITY		30.8	2	8.6	3	60.6	1	46.6	2	4.1	3	49.3	1
EDUCATIONAL		46.7	1	10.8	3	42.5	2	55.0	1	10.8	3	34.2	2
PUBLIC LIBRARY		38.9	2	8.3	3	57.8	1	46.0	2	5.4	3	48.6	1
OTHER		38.7	2	15.1	3	46.2	1	53.0	1	10.7	3	36.3	2
OVERALL	% OF SCORES	40.2		11.5		48.3		52.4		9.9		37.7	
	RANK		2		3		1		1		3		2

SCORE CONVERSION

RANK 1 = SCORE 3   RANK 2 = SCORE 2   RANK 3 = SCORE 1

TABLE 26:

COMPARATIVE TABLE OF SEARCH MODE PATTERNS

INTERMEDIARY-USER INTERACTION (SEARCH)	DESCHATELETS		WANGER		MARSHALL
	TOTAL %	ACADEMIC %	TOTAL %	ACADEMIC %	ACADEMIC %
DELEGATED	52.4	46.6	53.6	47.7	83.1
DIRECT	9.9	4.1	10.2	N/A	2.7
COMBINED	37.7	49.3	36.2	41.6	13.8

TABLE 27:

SEARCH PREPARATION AND SEARCH MODES: DIFFERENCES BETWEEN FRENCH AND ENGLISH SEARCH SERVICE CENTERS.

	PREPARING SEARCHES									CONDUCTING SEARCHES								
	DELEGATED			DIRECT			COMBINED			DELEGATED			DIRECT			COMBINED		
	SCORE	% OF SCORES	RANK	SCORE	% OF SCORES	RANK	SCORE	% OF SCORES	RANK	SCORE	% OF SCORES	RANK	SCORE	% OF SCORES	RANK	SCORE	% OF SCORES	RANK
ENGLISH CENTERS	647	43.0	2	160	10.6	3	697	46.3	1	772	53.5	1	140	9.7	3	531	36.8	2
FRENCH CENTERS	73	28.8	2	45	17.8	3	135	53.4	1	109	48.5	1	26	10.9	3	103	43.2	2
OVERALL	720	40.2	2	205	11.5	3	832	48.3	1	881	52.4	1	166	9.9	3	634	37.7	2

TABLE 28: SEARCH PREPARATION AND SEARCH MODES BY EXPERIENCE LEVELS

	PREPARING THE SEARCH									CONDUCTING THE SEARCH								
	DELEGATED		DIRECT		COMBINED		OTHER		Total Frequency (ΣF)	DELEGATED		DIRECT		COMBINED		OTHER		Total Frequency (ΣF)
	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score		Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	
Less than one year	41	103	19	38	46	116	1	2	107	48	129	17	38	37	66	1	2	103
1 year	42	97	18	35	50	136	0	0	110	49	121	13	27	44	115	0	0	106
2 years	67	171	18	35	67	171	1	2	153	72	197	15	35	55	131	0	0	142
3 years	57	143	23	35	62	158	0	0	142	60	170	16	31	53	118	0	0	129
4 years	32	77	18	30	42	108	2	2	94	39	107	5	7	33	78	1	1	78
5 years	26	68	11	16	28	69	0	0	65	30	83	5	11	21	48	0	0	56
More than 5 years	22	51	9	14	26	67	1	3	58	24	64	8	15	23	51	0	0	55
OVERALL	287	710	116	203	321	825	5	9	729	322	871	79	164	267	607	2	3	669

TABLE 29: SEARCH PREPARATION AND SEARCH MODES BY POTENTIAL END-USER POPULATIONS

	PREPARING THE SEARCH									CONDUCTING THE SEARCH								
	DELEGATED		DIRECT		COMBINED		OTHER		Total frequency (ΣF)	DELEGATED		DIRECT		COMBINED		OTHER		total frequency (ΣF)
	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score		Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	
Less than 100	68	160	41	89	76	198	1	2	186	75	200	36	86	60	140	1	2	172
101-500	80	210	24	34	86	217	0	0	190	91	253	14	25	69	159	1	1	170
501-1000	36	86	15	23	40	103	1	2	92	40	108	9	18	31	73	0	0	80
1001-5000	44	106	18	32	50	131	1	3	113	54	143	9	16	41	98	0	0	104
5001-10000	25	64	9	11	26	64	1	1	61	24	66	5	6	25	58	0	0	54
10001-20000	8	18	1	3	11	30	1	3	21	10	24	1	3	12	30	0	0	23
20001 and more	30	76	9	13	34	86	0	0	73	32	86	6	12	31	73	0	0	69
OVERALL	291	720	117	205	323	829	5	11	736	326	880	80	166	269	631	2	3	677

TABLE 30: SEARCH PREPARATION AND SEARCH MODES BY CATEGORIES OF ELIGIBLE END-USERS

	PREPARING THE SEARCH									CONDUCTING THE SEARCH								
	DELEGATED		DIRECT		COMBINED		OTHER		Total	DELEGATED		DIRECT		COMBINED		OTHER		Total
	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	frequency (ΣF)	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	frequency (ΣF)
ANY END-USER	98	227	43	70	119	313	3	6	263	109	287	24	45	103	250	1	2	237
INTERNAL USERS ONLY	171	440	65	117	180	452	2	3	418	188	518	47	100	146	336	1	1	382
OTHER	19	45	8	15	23	62	0	0	50	25	67	7	16	19	43	0	0	51
OVERALL	288	712	116	202	322	827	5	9	731	322	872	78	161	268	629	2	3	670

TABLE 31: SEARCH PREPARATION AND SEARCH MODES BY ONLINE SYSTEMS USED

	PREPARING THE SEARCH									CONDUCTING THE SEARCH								
	DELEGATED		DIRECT		COMBINED		OTHER		total	DELEGATED		DIRECT		COMBINED		OTHER		Total
	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	frequency ([illegible]F)	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	frequency ([illegible]F)
CAN/OLE	162	392	65	107	186	487	3	6	416	182	492	35	67	159	378	0	0	376
QL SYSTEMS	130	324	48	82	142	365	3	6	323	147	397	31	61	128	301	1	2	307
ORBIT	235	584	81	129	255	657	5	9	576	260	710	50	93	213	499	2	3	525
DIALOG	166	407	55	82	189	492	4	7	414	190	518	26	43	163	383	0	0	379
OVERALL	693	1707	249	400	772	2001	15	28	1729	779	2117	142	264	663	1561	3	5	1587

TABLE 32: **SEARCH PREPARATION AND SEARCH MODES BY SEARCH INTERMEDIARY' JOB SPECIALIZATION**

	PREPARING THE SEARCH									CONDUCTING THE SEARCH								
	DELEGATED		DIRECT		COMBINED		OTHER		Total frequency (ΣF)	DELEGATED		DIRECT		COMBINED		OTHER		total frequency (ΣF)
	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score		Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	
ONLINE SEARCH SPECIALISTS	38	94	15	19	43	109	3	5	99	43	117	8	13	38	84	0	0	89
SEARCH SPECIALISTS	187	462	58	77	209	542	2	2	456	210	577	28	43	179	417	0	0	417
NON SPECIALISTS	142	350	62	102	152	384	1	2	357	156	419	40	74	132	306	0	0	328
OVERALL	367	906	135	198	404	1035	6	9	912	409	1113	76	130	349	807	0	0	834

TABLE 33: SEARCH PREPARATION AND SEARCH MODES BY SEARCH INTERMEDIARY'S SUBJECT SPECIALIZATION

	PREPARING THE SEARCH									CONDUCTING THE SEARCH								
	DELEGATED		DIRECT		COMBINED		OTHER		total frequency (ΣF)	DELEGATED		DIRECT		COMBINED		OTHER		total frequency (ΣF)
	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score		Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	
SUBJECT SPECIALISTS	135	334	56	85	157	398	2	2	350	158	423	38	67	129	299	0	0	335
GENERALISTS	184	457	58	86	199	515	3	6	444	207	564	33	59	175	412	0	0	415
OVERALL	319	791	114	171	256	913	5	8	794	365	987	71	126	304	711	0	0	740

TABLE 34: SEARCH PREPARATION AND SEARCH MODES BY COST RECOVERY POLICIES

	PREPARING THE SEARCH																
	DELEGATED				DIRECT				COMBINED				OTHER				
OPTION	Fre-quency	Score	% of Scores	Rank	Frequency	Score	% of Scores	Rank	Frequen-cy	Score	% of Scores	Rank	Fre-quency	Score	% of Scores	Rank	Total frequen-cy
FREE BASIS	154	431	45.4	1	37	80	10.0	3	110	243	44.6	2	2	3	0.3	4	303
PARTIAL COST RECOVERY	119	309	39.0	2	24	41	11.7	3	104	254	49.3	1	0	0	0.	4	247
TOTAL COST RECOVERY	41	106	32.4	2	16	36	16.6	3	46	115	51.0	1	0	0	0	4	103
FOR PROFIT	6	18	41.4	2	1	2	10.3	3	4	6	48.3	1	0	0	0	4	11
OVERALL	320	864	41.1	2	78	161	11.6	3	264	618	47.3	1	2	3	0.	4	664

	CONDUCTING THE SEARCH																
	DELEGATED				DIRECT				COMBINED				OTHER				
OPTION	Fre-quency	Score	% of Scores	Rank	Frequen-cy	Score	% of Scores	Rank	Fre-quency	Score	% of Scores	Rank	Fre-quency	Score	% of Scores	Rank	Total frequency
FREE BASIS	140	366	57.2	1	47	81	10.6	3	145	359	32.2	2	2	3	0.4	4	334
PARTIAL COST RECOVERY	103	244	51.1	1	44	73	6.8	3	118	308	42.1	2	2	5	0.8	4	267
TOTAL COST RECOVERY	38	84	40.9	2	22	43	14.7	3	48	132	34.4	1	1	1	0.4	4	109
FOR PROFIT	4	12	69.2	1	1	3	7.7	3	6	14	23.1	2	0	0	0	4	11
OVERALL	285	706	52.6	1	114	200	9.8	3	317	813	37.6	2	5	0	0.5	4	721

TABLE 35: NUMBER OF SEARCH INTERMEDIARIES

NUMBER OF SEARCH INTERMEDIARIES	FREQUENCY	TOTAL	PERCENTAGE	TYPE OF ORGANIZATION						
				GOVERNMENTAL	INDUSTRIAL	COMMERCIAL	UNIVERSITY	EDUCATIONAL	PUBLIC LIBRARY	OTHER
0	39	0	10.3	13	10	4	4	2	0	6
1	120	120	31.6	37	31	8	21	5	0	17
2	99	198	26.1	25	18	6	30	8	0	12
3	52	156	13.7	13	12	1	14	3	3	6
4	21	84	5.5	6	2	1	6	2	2	2
5	14	70	3.7	2	0	2	7	0	1	2
6	15	90	3.9	6	1	0	1	6	0	1
7	5	35	1.3	3	0	0	2	0	0	0
8	4	32	1.1	1	1	0	1	0	1	0
9	1	9	0.3	0	0	0	1	0	0	0
10	3	30	0.8	0	0	0	2	0	0	1
11	2	22	0.5	1	0	0	1	0	0	0
14	2	28	0.5	1	0	0	0	0	0	1
16	1	16	0.3	0	0	0	1	0	0	0
18	1	18	0.3	0	0	0	1	0	0	0
20	1	20	0.3	0	0	0	1	0	0	0
	380	928	100.0	108	75	22	93	26	7	48

TABLE 36: SEARCH INTERMEDIARIES: DISTRIBUTION BY TYPE OF ORGANIZATION

TYPE OF ORGANIZATION	NUMBER OF INTERMEDIARIES					
	TOTAL NUMBER	AVERAGE	MODE	MEDIAN	NUMBER OF CENTERS REPORTING ZERO INTERMEDIARY	%
GOVERNMENTAL	250	2.31	1	3	13	12.0
INDUSTRIAL	125	1.66	1	2	10	13.3
COMMERCIAL	37	1.68	1	2	4	18.2
UNIVERSITY	304	3.27	2	4	4	0.4
EDUCATIONAL	74	2.85	2	4	2	7.7
PUBLIC LIBRARIES	30	4.29	3	4	0	0
OTHER	108	2.02	1	3	6	12.5
OVERALL	928	2.42	1	3	39	10.3

TABLE 37: SEARCH INTERMEDIARIES: JOB SPECIALIZATION

NUMBER OF SEARCH INTERMEDIARIES	ONLINE SEARCH SPECIALISTS		SEARCH SPECIALISTS		NON SPECIALISTS	
	Frequency	%	Frequency	%	Frequency	%
0	293	77.1	110	28.9	166	43.7
1	30	7.9	108	28.4	105	27.6
2	10	3.0	51	13.4	46	12.1
3	3	0.3	21	5.5	7	1.8
4			11	2.9	5	1.3
5			12	3.2	2	0.5
6	1	0.3	15	3.9		
7			1	0.3		
8			2	0.5	2	0.5
9			1	0.3		
10			1	0.3	2	0.5
11			1	0.3	1	0.3
12			1	0.3		
18			1	0.3		
20			1	0.3		
MISSING	43	11.3	44	11.6	44	11.6
OVERALL	380	100.0	380	100.0	380	100.0

TABLE 38: SEARCH INTERMEDIARIES: JOB SPECIALIZATION

(BY TYPE OF ORGANIZATION)

TYPE OF ORGANIZATION	ONLINE SEARCH SPECIALISTS		SEARCH SPECIALISTS		NON-SPECIALISTS		TOTAL
	NUMBER	%	NUMBER	%	NUMBER	%	
GOVERNMENTAL	24	9.8	140	56.9	82	33.3	246
INDUSTRIAL	8	6.5	65	53.3	49	40.2	122
COMMERCIAL	0	0	20	54.1	17	45.9	37
UNIVERSITY	21	6.9	204	67.1	79	26.0	304
EDUCATIONAL	0	0	59	79.7	15	20.3	74
PUBLIC LIBRARY	1	3.3	27	90.0	2	6.7	30
OTHER	11	9.6	45	39.1	51	44.3	115
OVERALL	65	7.0	560	60.3	295	31.8	928

TABLE 39:

SEARCH INTERMEDIARIES: SUBJECT SPECIALIZATION

NUMBER OF SEARCH INTERMEDIARIES	SUBJECT SPECIALISTS		GENERALISTS	
	Frequency	%	Frequency	%
0	164	43.2	107	28.2
1	93	24.5	102	26.8
2	26	6.8	65	17.1
3	15	3.9	24	6.3
4	8	2.1	15	3.9
5	6	1.6	9	2.4
6	9	2.4	2	0.5
7	2	0.5	3	0.8
8	2	0.5	1	0.3
9	1	0.3	2	0.5
10	2	0.5		
11	2	0.5	1	0.3
12			1	0.3
14	1	0.3		
18				
20	1	0.3		
MISSING	48	12.6	48	12.6
OVERALL	380	100.0	380	100.0

TABLE 40: SEARCH INTERMEDIARIES: SUBJECT SPECIALIZATION

(BY TYPE OF ORGANIZATION)

TYPE OF ORGANIZATION	SUBJECT SPECIALISTS		GENERALISTS	
	Frequency	%	Frequency	%
GOVERNMENTAL	116	48.3	124	51.7
INDUSTRIAL	37	30.8	83	69.2
COMMERCIAL	8	22.2	28	77.8
UNIVERSITY	165	54.3	139	45.7
EDUCATIONAL	43	58.1	31	41.9
PUBLIC LIBRARY	6	20.0	24	80.0
OTHER	45	42.1	62	57.9
OVERALL	420	45.4	491	52.9

TABLE 41: PROPORTION IN WHICH SUBJECT SPECIALIST SEARCH INTERMEDIARIES CONDUCT ONLINE SEARCHES IN THEIR OWN SPECIALITY

OPTION	TYPE OF ORGANIZATION							
	GOVERNMENTAL	INDUSTRIAL	COMMERCIAL	UNIVERSITY	EDUCATIONAL	PUBLIC LIBRARY	OTHER	TOTA
ALWAYS	5	4	0	7	0	1	7	24
MOST OF THE TIME	24	15	1	28	8	1	5	82
SOMETIMES	16	10	3	15	2	0	5	51
NEVER	5	1	1	3	0	0	2	12
CANNOT TELL	3	1	0	0	1	0	1	6
OVERALL	53	31	5	53	11	0	20	175
FIRST THREE OPTIONS TOGETHER	45	29	4	50	10	2	17	157
%	85.0	93.5	80.0	94.3	91.0	100	85.0	89.8

TABLE 42: SEARCH INTERMEDIARIES: TRAINING METHODS

METHOD	TOTAL FREQUENCY	PERCENTAGE	RANK	BY TYPE OF ORGANIZATION													
				GOVERNMENTAL		INDUSTRIAL		COMMERCIAL		UNIVERSITY		EDUCATIONAL		PUBLIC LIBRARY		OTHER	
				Frequency	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
FORMAL TRAINING BY SYSTEM REPRESENTATIVES FOR ALL SEARCH INTERMEDIARIES	222	29.8	1	59	30.1	40	30.4	11	34.4	63	26.0	16	42.1	6	33.3	26	32.1
FORMAL TRAINING BY SYSTEM REPRESENTATIVES FOR ONE OR A FEW SEARCH INTERMEDIARIES	91	12.2	5	24	12.2	15	11.1	4	12.5	34	14.0	3	7.9	1	5.5	10	12.3
LOCAL TRAINING BY THE MOST EXPERT SEARCH INTERMEDIARY	125	16.8	3	36	18.4	18	13.3	3	9.4	48	19.8	3	7.9	5	13.2	10	26.3
SELF-TRAINING (SEARCH INTERMEDIARIES ARE ON THEIR OWN)	119	16.0	4	28	14.3	21	15.5	7	21.9	48	19.8	5	13.2	2	11.1	8	9.9
FORMAL TRAINING BY DATA BASE REPRESENTATIVES FOR CONCERNED SEARCH INTERMEDIARIES	175	23.6	2	47	24.0	38	28.1	6	18.7	46	19.0	10	26.3	3	16.7	24	29.6
OTHER	12	1.6	6	2	1.0	3	2.2	1	3.1	3	1.2	1	2.6	0	0	2	2.5
TOTAL	744	100		196	100	135	100	32	100	242	100	38	100	18	100	81	100

TABLE 41: TRAINING: SEARCH SPECIALIZATION

Are search intermediaries trained to use all available online systems?

	Frequency	%
Yes, all intermediaries are	207	54.5
Yes, some intermediaries are	82	21.6
No	42	11.1
Cannot tell	2	0.5

Do search intermediaries equally use all online systems on which they have been trained?

	Frequency	%
Yes	139	48.1
No	107	37.0
Cannot tell	23	8.0

Basis of search specialization

			BY TYPE OF ORGANIZATION													
			GOVERNMENTAL		INDUSTRIAL		COMMERCIAL		UNIVERSITY		EDUCATIONAL		PUBLIC LIBRARY		OTHER	
	Frequency	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
He/she learns one system and conducts all searches on that system	23	17.2	5	13.2	3	15.0	1	14.9	12	24.0	0	0	1	25.0	1	10.0
He/she learns one or a few data bases and conducts any search on that (these) data base(s) on whatever system	28	20.9	9	23.7	6	30.0	2	28.6	9	18.0	1	20.0	0	0	1	10.0
He/she specializes in a discipline (subject area) and learns whatever system(s) and data base(s) necessary to adequately cover that area	51	38.1	14	36.8	5	25.0	2	28.6	23	46.0	3	60.0	1	25.0	3	30.0
OTHER	32	23.8	10	26.3	6	30.0	2	28.6	6	12.0	1	20.0	2	50.0	5	50.0
TOTAL	134	100	38	100	20	100	7	100	50	100	5	100	4	100	10	100

TABLE 44: PRE-SEARCH ACTIVITIES: FREQUENCY AND SCORE DISTRIBUTION

ACTIVITY		SEARCH INTERMEDIARIES' INVOLVEMENT																TOTAL	
		DECIDE		ASSIST		EXPLAIN		DO NOT DO OR PARTICIPATE		DECIDE & ASSIST		DECIDE & EXPLAIN		ASSIST & EXPLAIN		DECIDE & ASSIST & EXPLAIN			
		Freq.	Score (7f)	Freq.	Score (2f)	Freq.	Score (1f)	Freq.	Score (-7f)	Freq.	Score (6f)	Freq.	Score (5f)	Freq.	Score (3f)	Frequence	Score (4f)	Score	Rang
Selection of online searching as one way of obtaining needed information		111	777	120	240	13	13	8	-56	54	324	2	10	11	33	17	68	1409	12
Selection of additional approaches		115	805	113	226	16	16	16	-112	50	300	2	10	9	27	15	60	1332	13
Selection of mode of searching: delegated, direct or combined		194	1358	69	138	10	10	21	-147	34	204	0	0	2	6	6	24	1593	8
Selection of appropriate data base(s)		194	1358	76	152	1	1	10	-70	42	252	4	20	2	6	7	28	1747	5
Selection of online system(s)		251	1757	31	62	1	1	28	-146	19	114	1	5	1	3	4	16	1812	3
Question formulation and elaboration		99	697	137	274	3	3	7	-49	74	444	0	0	5	15	11	44	1428	11
Search strategy formulation: selection of concepts		126	882	117	234	3	3	7	-49	69	414	0	0	4	12	10	40	1536	9
Search strategy formulation: selection of search terms		122	854	107	214	2	2	2	-14	89	534	1	5	3	9	10	40	1644	6
Search strategy formulation: expansion of search vocabulary		130	910	106	212	1	1	5	-35	82	492	1	5	2	6	9	36	1627	7
Search strategy formulation: selection of additional access points		190	1330	75	150	3	3	8	-56	47	282	2	10	2	6	9	36	1761	4
Search strategy formulation: selection of search logic		212	1484	63	126	2	2	8	-56	41	246	1	5	1	3	8	32	1837	2
Search strategy formulation: restrictions and other limiting devices		112	784	123	246	5	5	9	-63	72	432	0	0	4	12	11	44	1460	10
Use of printed aids: user manuals, thesauri, dictionaries		219	1533	49	98	4	4	9	-63	44	264	1	5	2	6	8	32	1879	1
OVERALL	Score	2075	14529	1186	2372	64	64	138	-966	717	4302	15	75	48	144	125	500	21020	
	% of scores	67.3		10.8		0.3		0		19.6		0.3		0.6		2.3			

TABLE 45: PRE-SEARCH ACTIVITIES: SCORE DISTRIBUTION BY TYPE OF ORGANIZATION

TYPE OF ORGANIZATION	N	MAXIMUM SCORE PER ACTIVITY	ACTIVITY																										TOTAL	
			Selection of online searching as one way of obtaining needed information		Selection of additional approaches.		Selection of mode of searching: delegated, direct or combined.		Selection of appropriate data base(s)		Selection of online system(s)		Question formulation and elaboration		Search strategy formulation: selection of concepts		Search strategy formulation: selection of search terms		Search strategy formulation: expansion of search vocabulary		Search strategy formulation: selection of additional access points		Search strategy formulation: selection of search logic		Search strategy formulation: search restriction and other limiting devices		Use of printed aids: user manuals, thesauri, dictionaries.			
			S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%
ENVIRONMENTAL	94	658	282	42.9	339	51.5	418	63.5	471	71.6	495	75.2	387	58.8	423	64.3	429	65.2	428	65.0	475	72.2	496	75.4	395	60.0	513	78.0	5551	64.9
INDUSTRIAL	63	441	327	74.1	322	73.0	327	74.1	386	87.5	367	83.2	301	68.2	345	78.2	353	80.0	349	79.1	362	82.1	378	85.7	318	72.1	383	86.8	4518	78.8
COMMERCIAL	18	126	108	85.7	98	77.8	120	95.2	101	80.1	92	73.0	93	73.8	88	69.8	88	69.8	89	70.6	96	76.2	106	84.1	87	69.0	101	80.1	1267	77.4
UNIVERSITY	88	616	267	43.3	260	42.2	390	63.3	372	60.4	450	73.1	293	47.6	318	51.6	365	59.2	392	63.6	405	65.7	338	54.9	316	51.3	434	70.4	4598	57.4
EDUCATIONAL	23	161	114	70.8	112	69.6	134	83.2	147	91.3	125	77.6	120	74.5	94	58.4	138	85.7	103	64.0	140	87.0	146	90.7	106	65.8	157	97.5	1636	78.1
PUBLIC LIBRARY	7	49	29	59.8	28	57.1	33	67.3	33	67.3	49	100	36	73.5	31	63.3	42	85.7	45	91.8	40	81.6	48	98.0	41	83.7	48	98.0	503	79.0
OTHER	42	294	162	55.1	167	56.8	166	56.5	230	78.2	178	60.2	188	63.9	210	71.4	222	75.5	214	72.8	237	80.6	252	85.7	191	65.0	236	80.3	2663	69.7
OVERALL	335	2345	1289	61.6	1326	61.1	1588	71.8	1740	76.6	1756	77.6	1418	65.7	1509	65.3	1637	74.4	1620	72.4	1755	77.5	1764	82.1	1454	66.[illegible]	1882	84.9	20736	68.0
	RANK		12		13		8		5		3		11		9		6		7		4		2		10		1			

S= Score %= % of search intermediary' involvement/autonomy

TABLE 46: PRE-SEARCH ACTIVITIES: SUMMARY

ACTIVITY	SCORE	RANK	Type of organization where search intermediaries are most autonomous	Type of organization where search intermediaries are less autonomous
Selection of online searching as one way of obtaining needed information	61.6	12	Commercial (85.7)	Governmental (42.9)
Selection of additional approaches	61.1	13	Commercial (77.8)	University (42.2)
Selection of mode of searching: delegated, direct or combined	71.8	8	Commercial (95.2)	Other (56.5)
Selection of appropriate data base(s)	76.6	5	Educational (91.3)	University (60.4)
Selection of online system(s)	77.6	3	Public Library (100)	Other (60.2)
Question formulation and elaboration	65.7	11	Educational (74.5)	University (47.6)
Search strategy formulation: selection of concepts	65.3	9	Industrial (78.2)	University (51.6)
Search strategy formulation: selection of search terms	74.4	6	Educational Public Library (85.7)	University (59.2)
Search strategy formulation: expansion of search vocabulary	72.4	7	Public Library (91.8)	University (63.6)
Search strategy formulation: selection of additional access points	77.5	4	Educational (87.0)	University (65.7)
Search strategy formulation: selection of search logic	82.1	2	Public Library (98.0)	University (54.9)
Search strategy formulation: restrictions and other limiting devices	66.7	10	Public Library (83.7)	University (51.3)
Use of printed aids: user manuals, thesauri, dictionaries.	84.9	1	Public Library (98.0)	University (70.4)
OVERALL	68.0	2	Public Library (79.0) Industrial (78.8)	University (57.4)

N = 335

TABLE 47: SEARCH ACTIVITIES: FREQUENCY AND SCORE DISTRIBUTION

ACTIVITIES		ROLE OF SEARCH INTERMEDIARIES															TOTAL	
	DECIDE		ASSIST		EXPLAIN		DO NOT DO OR PARTICIPATE		DECIDE & ASSIST		DECIDE & EXPLAIN		ASSIST & EXPLAIN		DECIDE & ASSIST & EXPLAIN		SCORE	R A N K
	Frequency	Score (7f)	Frequency	Score (2f)	Frequency	Score (1f)	Frequency	Score (-7f)	Frequency	Score (6f)	Frequency	Score (5f)	Frequency	Score (3f)	Frequency	Score (4f)		
Communications procedures		294	2058	13	26	5	5	5	-35	5	30	4	20	0	0	7	28	2132	5
Search protocols: LOG-ON/LOGG-OFF Procedures		305	2135	9	18	4	4	5	-35	3	18	5	25	0	0	3	12	2177	1
Keyboarding (operating the terminal)		302	2114	10	20	3	3	5	-35	7	42	4	20	0	0	3	12	2176	2
Consulting online dictionaries/thesauri		254	1778	29	58	2	2	17	-119	23	138	3	15	0	0	6	24	1896	7
Consulting printed dictionaries/thesauri		216	1512	47	94	1	1	15	-105	46	276	4	20	0	0	5	20	1818	10
Consulting user manuals (for system or data base information)		293	2051	16	32	1	1	5	-35	11	66	3	15	0	0	5	20	2150	4
Search commands selection and use		293	2051	18	36	0	0	4	-28	10	60	4	20	0	0	5	20	2159	3
Truncation		258	1806	31	62	0	0	7	-49	28	168	3	15	1	3	6	24	2029	6
Review search history		237	1659	34	68	3	3	21	-147	32	192	3	15	0	0	3	12	1802	11
Output formats and contents		190	1330	68	136	3	3	7	-49	47	282	8	40	1	3	10	40	1785	12
On-line and off-line printing		186	1302	69	138	3	3	3	-21	57	342	6	30	1	3	9	36	1833	9
Modifying search strategy		158	1106	79	158	0	0	6	-42	75	450	6	30	1	3	8	32	1737	13
Use of special system features: save search, [illegible]li, stringsearch, full text searching		260	1820	27	54	1	1	20	-140	14	84	5	25	0	0	7	28	1872	8
O V E R A L L	SCORE	3246	22722	450	900	26	26	120	-840	358	2148	58	290	4	12	77	308	25566	
	% of SCORES	88.9		3.5		0.1		0		8.4		1.1		0		1.2			

TABLE 46: SEARCH ACTIVITIES: SCORE DISTRIBUTION BY TYPE OF ORGANIZATION

TYPE OF ORGANIZATION	N	MAXIMUM SCORE BY ACTIVITY	ACTIVITY																												TOTAL	
			Communications procedures		Search protocols: LOG-ON/LOG-OFF Procedures		Keyboarding (operating the terminal)		Consulting online dictionaries/thesauri		Consulting printed dictionaries/thesauri		Consulting user manuals (for system or data base information)		Search commands selection and use		Truncation		Review search history		Output formats and contents		On-line and off-line printing		Modifying search strategy		Use of special system features: save search, sdi, stringsearch, full text searching			
			S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S		%	S	%		S	%	S	%	SCORE	% of search intermediaries
GOVERNMENTAL	94	658	549	83.4	587	89.2	589	89.5	429	72.8	464	70.5	591	89.8	587	89.2	540	82.1	456	69.3	475	72.2	508	77.2	451	68.5	523	79.5	6799	79.4
INDUSTRIAL	61	427	412	96.5	418	97.9	419	98.1	398	93.2	369	86.4	409	96.8	400	93.7	389	91.1	376	88.1	379	88.6	391	91.6	328	76.8	392	91.8	5080	91.5
COMMERCIAL	18	126	121	96.0	107	84.9	107	84.9	93	73.8	92	73.0	93	73.8	107	84.9	101	80.2	95	75.4	120	95.2	109	86.5	109	86.5	93	73.8	1347	82.2
UNIVERSITY	88	616	564	91.6	569	92.4	563	91.4	470	76.3	430	69.8	566	91.9	571	92.7	512	83.1	452	73.4	417	62.7	413	67.0	420	68.2	443	71.9	6390	79.8
EDUCATIONAL	23	161	148	91.9	158	98.1	158	98.1	157	97.5	150	93.2	158	98.1	158	98.1	153	95.0	137	85.1	134	83.2	133	82.6	134	83.2	158	98.1	1936	92.5
PUBLIC LIBRARY	7	49	49	100	49	100	49	100	49	100	49	100	49	100	49	100	48	98.0	38	77.5	28	57.1	36	73.5	45	91.8	44	90.0	582	91.3
OTHER	42	294	282	95.9	282	95.9	284	96.2	255	86.7	257	87.4	277	94.2	280	95.2	280	95.2	242	82.3	228	77.5	242	82.3	248	84.3	215	73.1	3372	88.2
OVERALL	333	2331	2125	91.2	2170	93.1	2169	93.0	1901	81.5	1811	77.7	2143	91.9	2152	92.3	2023	86.8	1796	77.0	1781	76.4	1832	78.6	1735	74.4	1868	80.1	25566	84.2
RANK			5		1		2		7		10		4		3		6		11		12		9		13		8			

S= Score %= % of search intermediary involvement/autonomy

TABLE 49: SEARCH ACTIVITIES: SUMMARY

ACTIVITY	SCORE	RANK	Type of organization in which intermediar- is most involved.	Type of organization in which intermediary is less involved.
Communications procedures	91.2	5	Public Library (100)	Governmental (83.4)
Search protocols: LOG-ON/LOGG-OFF Procedures	93.1	1	Public Library (100)	Commercial (84.9)
Keyboarding (Operate the terminal)	93.0	2	Public Library (100)	Commercial (84.9)
Consulting online dictionaries/ thesauri	81.5	7	Public Library (100)	Governmental (72.8)
Consulting printed dictionaries/ thesauri	77.7	10	Public Library (100)	University (69.8)
Consulting user manuals (for system or data base information)	91.9	4	Public Library (100)	Commercial (73.8)
Search commands selection and use	92.3	3	Public Library (100)	Commercial (84.9)
Truncation	86.8	6	Public Library (98.0)	Commercial (80.2)
Review search history	77.0	11	Industrial (88.1)	Governmental (69.3)
Output formats and contents	76.4	12	Commercial (95.2)	Public Library (57.1)
ON-Line and Off-line printing	78.6	9	Industrial (91.6)	University (67.0)
Modifying search strategy	74.4	13	Public Library (91.8)	University (68.2)
Use of special system features: save search, sdi, stringsearch, full text searching.	80.1	8	Educational (98.1)	Other (73.1) Commercial (73.8)
OVERALL	84.2	1	Educational (92.5) Industrial (91.5) Public Library (91.3)	Governmental (79.4) University (79.8)

N= 333

TABLE 50: POST-SEARCH ACTIVITIES: FREQUENCY AND SCORE DISTRIBUTION

ACTIVITY	SEARCH INTERMEDIARIES' INVOLVEMENT																TOTAL	
	DECIDE		ASSIST		EXPLAIN		DO NOT DO OR PARTICIPATE		DECIDE & ASSIST		DECIDE & EXPLAIN		ASSIST & EXPLAIN		DECIDE & ASSIST & EXPLAIN		SCORE	RANK
	Frequency	Score (7f)	Frequency	Score (2f)	Frequency	Score (1f)	Frequency	Score (-7f)	Frequency	Score (6f)	Frequency	Score (5f)	Frequency	Score (3f)	Frequency	Score (4f)		
Reception of off-line prints	264	1848	27	54	4	4	18	-126	16	96	1	5	3	12	2	8	1901	1
Notes, comments or evaluation of search output	89	623	84	168	32	32	65	-455	50	300	5	25	5	15	4	16	724	4
Identification and location of relevant retrieved documents	110	770	73	146	47	47	45	-315	39	234	0	0	10	30	11	44	956	2
Provision of (getting) relevant retrieved documents	128	896	64	128	39	39	61	-427	28	168	2	10	6	18	6	24	856	3
Online ordering of relevant retrieved documents	144	1008	36	72	13	13	115	-805	22	132	2	10	1	3	1	4	437	5
Examining documents and extracting pertinent information from them	29	203	56	112	24	24	192	-1344	25	150	0	0	3	9	6	24	-822	6
OVERALL SCORE	764	5348	340	680	159	159	496	-3472	180	1080	10	50	28	87	30	120	4052	
% of SCORES	71.1		9.0		2.1		0		14.4		0.7		1.1		1.6			

TABLE 51: POST-SEARCH **ACTIVITIES**: SCORE DISTRIBUTION BY TYPE OF ORGANIZATION

TYPE OF ORGANIZATION	N	MAXIMUM SCORE BY ACTIVITY	ACTIVITIES: Reception of off-line prints		Notes, comments or evaluation of search output		Identification and location of relevant retrieved documents		Provision of (getting) relevant retrieved documents		Online ordering of relevant retrieved documents		Examining documents and extracting pertinent information from them		TOTAL	
			S	%	S	%	S	%	S	%	S	%	S	%	SCORE	% of search intermediary
GOVERNMENTAL	95	570	498	87.4	154	27.0	308	54.0	317	55.6	153	26.8	-160	-15.3	1430	41.8
INDUSTRIAL	61	366	376	88.1	150	41.0	227	62.0	292	79.8	172	47.0	-56	-17.6	1217	55.4
COMMERCIAL	18	108	121	96.0	87	80.5	86	79.6	90	83.3	92	85.2	-19	-71.4	476	73.4
UNIVERSITY	88	528	479	90.7	131	24.8	68	12.9	-52	-9.8	-61	-11.5	-377	-50.7	678	21.4
EDUCATIONAL	23	138	153	95.0	102	73.9	108	78.3	70	50.7	32	23.2	-70	-76.2	465	56.2
PUBLIC LIBRARY	7	42	25	59.5	5	9.5	22	52.4	20	47.6	-10	-23.8	-32	-43.2	72	28.6
OTHER	42	252	239	94.8	89	35.3	136	54.0	128	50.8	53	21.0	-109	-43.2	645	42.7
OVERALL	334	2004	1891	87.3	718	41.7	955	56.2	917	52.5	502	29.0	-823	-16.5	4983	45.6
RANK			1		4		2		3		5		6			

S= Score   %= % of search intermediary involvement/autonomy   N= Number of respondents

TABLE 52: POST-SEARCH ACTIVITIES: SUMMARY

ACTIVITY	SCORE	RANK	Type of organization in which intermediary is most involved	Type of organization in which intermediary is less involved.
Reception of off-line prints	87.3	1	Commercial (96.0)	Public Library (59.5)
Notes, comments or evaluation of search output	41.7	4	Commercial (80.5)	Public Library (9.5)
Identification and location of relevant retrieved documents	56.2	2	Commercial (79.6)	University (12.9)
Provision of (getting) relevant retrieved documents	51.1	3	Commercial (83.3)	University (0)
Online ordering of relevant retrieved documents	24.0	5	Commercial (85.2)	Public Library (0)
Examining documents and extracting pertinent information from them	0	6	none	all
OVERALL	45.6	3	Commercial (60.4)	University (5.1) Public Librar (10.2)

TABLE 53: DEGREES OF SEARCH INTERMEDIARY'S INVOLVEMENT/AUTONOMY IN ONLINE ACTIVITIES: SUMMARY

TYPE OF ORGANIZATION	% OF SEARCH INTERMEDIARY'S AUTONOMY			
	PRE-SEARCH ACTIVITIES	SEARCH ACTIVITIES	POST-SEARCH ACTIVITIES	TOTAL
GOVERNMENTAL	64.9	79.4	41.8	62.0
INDUSTRIAL	78.8	91.5	55.4	75.2
COMMERCIAL	77.4	82.2	73.4	77.7
UNIVERSITY	57.4	79.8	21.4	52.9
EDUCATIONAL	78.1	92.5	56.2	75.6
PUBLIC LIBRARY	79.0	91.3	28.6	66.3
OTHER	69.7	88.2	42.7	66.9
TOTAL	68.0	84.2	45.6	65.9
% OF TOTAL INVOLVEMENT	34.3	42.6	23.1	

TABLE 54: TUTORIAL ACTIVITIES: SUMMARY

ACTIVITY (SEARCH RELATED)	Percentage of service centers where most intermediaries are involved	Rank	Type of organization on where intermediaries are most involved.	Type of organization where intermediaries are less involved.
General description of online searching	75.3	1	Public Library (100)	Education (56.5)
System description: how each system operates	47,7	4	Public Library (71.4)	Commercial (22,2)
Data base description: subject and document coverage	73.6	2	University (92.8)	Commercial (55.5)
Manual search description: how to use corresponding printed indexes and abstracts	65.3	3	University (91.6)	Public Library (42.9)
Data base indexing policy and vocabulary coverage	38.6	7	University (59.5)	Commercial (11.1)
System cost structure	40.7	6	Public Library (85.7)	Commercial (27.8)
Local cost structure and policy	46.2	5	Public Library (85.7)	Commercial (27.8)
OVERALL	55.4		University (71.3)	Commercial (37.3)

N= 329

TABLE 56: END-USERS' WILL AND ABILITY TO CONDUCT THEIR OWN ONLINE SEARCHES

WOULD END-USERS BE WILLING TO CONDUCT THEIR OWN ONLINE SEARCHES?

	FREQUENCY	PERCENTAGE
YES	72	18.9
NO	150	39.4
CANNOT TELL	121	31.9
MISSING	37	9.8

COMPARED TO SEARCH INTERMEDIARIES', THEIR RESULTS WOULD BE:

	FREQUENCY	PERCENTAGE
BETTER	25	6.6
SAME	85	22.3
POORER	112	29.5
CANNOT TELL	120	31.6
MISSING	38	10.0

TABLE 55: TUTORIAL ACTIVITIES: FREQUENCY DISTRIBUTION BY TYPE OF ORGANIZATION

TUTORIAL ACTIVITIES	TYPE OF ORGANIZATION														TOTAL (N= 329)	
Search related	Governmental N= 93		Industrial N= 59		Commercial N= 18		University N= 89		Educational N= 23		Public Library N= 23		OTHER N= 40			
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
General description of online searching	67	72.0	41	69.5	11	61.1	77	86.5	13	56.5	7	100	32	80.0	248	75.3
System description: how each system operates	42	45.2	26	44.1	4	22.2	47	56.6	9	39.1	5	71.4	24	60.0	157	47.7
Data Base description: subject and document coverage	64	68.8	36	61.0	10	55.5	77	92.8	13	56.5	6	85.7	36	90.0	242	73.6
Manual search description: how to use corresponding printed indexes and abstracts	57	61.3	31	52.5	10	55.5	76	91.6	13	56.5	3	42.9	25	62.5	215	65.3
Data Base indexing policy and vocabulary coverage	28	30.1	21	35.6	2	11.1	53	59.5	6	26.1	1	14.3	16	40.0	127	38.6
System cost structure	28	30.1	23	39.0	5	27.8	48	53.9	7	30.4	6	85.7	17	42.5	134	40.7
Local cost structure and policy	26	29.0	21	35.6	5	27.8	66	74.2	8	34.8	6	85.7	20	50.0	152	46.2
OVERALL	312	47.9	199	48.2	47	37.3	444	71.3	69	42.9	34	69.4	170	60.7	1275	55.4
General Workshops, lectures, demonstrations for end-users	42	45.2	23	39.0	7	38.9	60	67.4	10	43.5	3	42.9	17	42.5	162	57.6
Marketing and promotion programs and tools	28	30.1	17	28.8	4	22.2	41	46.1	8	34.8	4	57.1	17	42.5	119	42.4
TOTAL	70	37.6	40	33.9	11	30.5	101	56.7	18	39.1	7	50.0	34	42.5	281	42.7
OVERALL	382	45.6	239	45.0	58	35.8	545	68.0	87	42.0	41	65.1	204	56.7	1556	52.5

F= Number of service centers where most search intermediaries are involved in the activity.

%= Percentage of service centers where most search intermediaries are involved in the activity. $(\frac{F}{N})$